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Cost Estimates for Construction of Publicly-owned Wastewater Treatment Facilities

1976 Needs Survey

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430/9--76--010 (MCD-48A)	"Cost Estimates for Construction of Publicly-Owned Wastewater Treatment Facilities -- 1976 Needs Survey" This volume contains cost estimates for needed publicly-owned wastewater treatment facilities for eight Needs Categories in each of the States and Territories.
430/9--76--011 (MCD-48B)	"Summary of Technical Data" (Categories I-IV) This volume consists of summaries of technical data collected in the course of the field work of the Needs Survey in Categories I through IV.
430/9--76--012 (MCD-48C)	"Summary of Technical Data For Combined Sewer Overflow and Stormwater Discharge" This volume contains the technical rationale and supporting technical data used for the estimation of need in Categories V and VI.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF THE
ADMINISTRATOR

Dear Mr. Speaker:

Enclosed is the Environmental Protection Agency's report on the results of the 1976 Survey required by sections 205(a) and 516(b)(2) of the Federal Water Pollution Control Act. The purpose of this report is to estimate the costs of construction of publicly-owned wastewater treatment facilities needed to carry out the provisions of the Act and to estimate these costs on a State-by-State basis.

The 1976 Survey estimates the overall remaining needs for the conveyance and treatment of municipal sewage, and control of pollution from combined sewer overflows to be $96 billion. Of this total, about $52 billion are needed for new treatment plants and interceptors, which historically were eligible under Public Law (84-660) as well as the present Act.

The 1976 estimate is 37 percent lower than the estimate of $151 billion (January 1976 dollars) reported in the 1974 Needs Survey. This is because these latest estimates reflect a better formulated and more consistent survey methodology, the greater amounts of information now available from such sources as new facility plans, basin plans and discharge permits, and the use of private contractors to assist in the Survey preparation. In addition, new projects approved between the 1974 and 1976 surveys account for a reduction of more than $8 billion in the present survey estimate.

The 1976 estimate includes $18 billion for control of pollution from combined sewer overflows. This is less than half the estimate made in 1974, which included substantial costs for facilities that would largely serve the purposes of urban drainage or flood control.

While the best solution to the problems of urban drainage and pollution control may be a joint multiple purpose project, we do not consider that the costs allocable to drainage are or should be eligible for grant funding under our program. The 1976 estimate for combined sewers was based on the assumption that the 1983 goals of the Act could be met even though not all overflows during a severe storm were completely controlled. This assumption may not fully conform with some state standards which could be interpreted to require massive expenditures for the control of overflows from the worst storms of record.

We have also estimated needs for the control of pollution from separate storm sewers at $54 billion above the $96 billion for the other types of facilities. The estimated costs of control of stormwater pollution vary greatly depending upon how one approaches the problem. After further research we may conclude that $54 billion is not the best estimate. We believe, however, that it is much nearer the mark than the $329 billion reported in the 1974 Survey.

The separate State estimates resulting from the 1976 Survey are presented in the attached report. Total State estimates exceeded total EPA estimates by only five percent. A relatively few States account for most of this difference.

I believe that the totals in this report are an accurate overall estimate of the cost of meeting the goals of FWPCA. The costs reported for treatment and interceptors, in particular, seem nationally consistent and well formulated.

I would be pleased to discuss further the results of this Survey at your convenience.

Sincerely yours,

John Quarles

Acting Administrator

Enclosure

Honorable Thomas P. O'Neill, Jr.
Speaker of the House
of Representatives
Washington, D.C. 20515

1976 NEEDS SURVEY

COST ESTIMATES FOR CONSTRUCTION OF PUBLICLY-OWNED WASTEWATER TREATMENT FACILITIES

February 10, 1977

IV

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COST ESTIMATES FOR CONSTRUCTION OF PUBLICLY-OWNED WASTEWATER TREATMENT FACILITIES

The 1976 Needs Survey

I. INTRODUCTION

This report is submitted in compliance with the provisions of the Federal Water Pollution Control Act Amendments of 1972 (FWPCA), P.L. 92-500, Sections 205(a) and 516(b)(2). Included in this report are a detailed estimate of the cost of construction of all needed publicly-owned treatment works in all of the States and the cost of construction of all needed publicly-owned treatment works in each of the States, to meet the 1983 goals of the FWPCA. The cost estimates presented in this Survey may serve as a basis for Congressional allotment of funds in accordance with the provisions of the Act.

This is the third Needs Survey conducted since the enactment of PL 92-500. Two previous Surveys were conducted in 1973 and 1974. The 1976 Survey had three goals aimed at improvement of the Needs estimation process:

1. To secure estimates which are comparable nationwide,
2. To improve the overall quality of the estimates, and
3. To develop a detailed information base to assist in program planning and management.

EPA, in a joint effort with an advisory group consisting of State and Regional representatives, formulated the approach used in the 1976 Needs Survey. The approach selected called for an active role by EPA, with State participation in varying degrees, State-by-State, depending on resource priorities. This permitted the use of a single nationwide methodology, with uniformly applied guidelines. Provision was made in the guidelines for local cost variations due to local conditions affecting construction costs.

II. EXPLANATION OF THE SURVEY

A. Cost Categories

The 1976 Survey used the same cost estimate Categories as were used in 1974. These Categories are:

Category I - SECONDARY TREATMENT. This included costs for facilities which are only required to provide "secondary treatment" or "best practicable wastewater treatment technology" (BPWTT). For the purpose of the Survey, BPWTT and secondary treatment were considered synonymous.

Category II - HIGHER THAN SECONDARY TREATMENT. Costs reported in this Category are for treatment facilities that must achieve treatment levels more stringent than secondary. This requirement generally exists where water quality standards require removal of such pollutants as phosphorus, ammonia, nitrates, or organic and other substances.

Category IIIA - CORRECTION OF INFILTRATION/INFLOW. Included are costs for correction of sewer system infiltration/inflow problems. Costs could also be reported for a preliminary sewer system analysis and for a detailed Sewer System Evaluation Survey.

Category IIIB - MAJOR REHABILITATION OF SEWERS. Requirements for replacement and/or major rehabilitation of existing sewer systems were reported in this Category. Costs were reported if the corrective actions were necessary to the total integrity of the system. Major rehabilitation is considered to be extensive repair of existing sewers beyond the scope of normal maintenance programs, where sewers are collapsing or structurally unsound.

Category IVA - NEW COLLECTOR SEWERS. This Category included costs of construction of new collector sewer systems and appurtenances designed to correct violations caused by raw discharges, seepage to waters from septic tanks and the like, and/or to comply with Federal, State or local actions.

Category IVB - NEW INTERCEPTOR SEWERS. Included in this Category were new interceptor sewers and transmission pumping stations necessary for the bulk transport of wastewaters.

Category V - CONTROL OF COMBINED SEWER OVERFLOW. Costs reported for this Category were for facilities to prevent and/or control periodic bypassing of untreated wastes from combined sewers to achieve water quality objectives and which are eligible for Federal funding. It does not include treatment and/or control of stormwaters.

Category VI - TREATMENT AND/OR CONTROL OF STORMWATERS. This Category included the costs of abating pollution from stormwater runoff channelled through sewers and other conveyances used only for such runoff. The cost of abating pollution from stormwater channelled through combined sewers which also carry sewage are included in Category V.

Appendix I explains the details of the conduct of the Survey.

B. Survey Dollars

All costs were estimated in January, 1976 dollars.

C. Populations

Two time periods are of interest to the Needs Survey for population purposes. The first of these is the present, defined as the July, 1975 population of the States as calculated by the Bureau of the Census in publication P-25 (No. 615). The second population of interest is the future or projected population, based, as in past Surveys, on the Census Series I-E population projections for 1990.

States which presented evidence, through State conducted censuses or other means, that the 1990 population projections were too low, were allowed to increase 1990 population ceilings for Needs purposes. Table 25 shows population ceilings as used in the Survey.

III. RESULTS OF THE SURVEY

A. EPA Assessment

The results of the 1976 Survey are that the assessment of the need for construction of municipal wastewater treatment facilities to serve 1990 populations is $95.9 billion in Categories I through V, and an additional $54.1 billion for control of stormwaters (Category VI). The States' estimate for the same needs are $100.4 billion for Categories I-V and $57.2 billion for Category VI.

Table A contains a summary of national needs by Category.

Included in the Needs assessment is $52.2 billion for Categories I, II and IVB that reflect the costs for the traditional Water Quality Program of Treatment Plants and Interceptor Sewers.

B. Independent State Estimates

After EPA formulation of cost estimates, States were asked to review these estimates and concur or provide additional data to support differing costs. In many cases these data were supplied, and the resultant EPA assessments reflect those changes.

In some instances, however, differences in cost estimates were irreconcilable between EPA and State participants. In this case, State participants provided an independent State estimate of need differing from the EPA estimate, and usually higher in cost.

The reason for differing cost estimates was, in general, not associated with construction costs themselves, but with States' beliefs that Survey guidelines should be amended and/or adjusted in these areas to permit higher costs to be reported.

C. Differences Between State and EPA Estimates

A total of over 97,000 possible individual cost estimates were investigated by EPA. Over 36,000 of these possible estimates resulted in a need. Table A-1 in Appendix IV shows for each State the number of individual cost estimates made by EPA in Categories I-IV, which resulted in a Need. For Categories V and VI, two estimates per State were made for the capital costs of achieving the 1983 goals of the Act. One estimate was for current (1975) populations, and the other for 1990 populations.

Of over 97,000 separate cost estimates investigated by EPA, only 2953 (3%) independent estimates were submitted by States, representing five percent of the Needs. Table A-2 in Appendix IV shows for each State the number of independent estimates submitted in Categories I - VI, by Category of Need. The bulk of these independent estimates are:

State	Percent of Estimates	Percent of Dollars
Puerto Rico	86	12.4
Kansas	38	23.4
Vermont	35	1.0
Indiana	26	2.6
New York	59	13.8
New Jersey	34	.6

A total of twenty-five States and Territories reported no independent State estimates differing from EPA estimates. Three States submitted independent estimates for Category V, and four States submitted independent estimates for Category VI.

TABLE A - 1976 Needs Survey Summary Costs
(January, 1976 Dollars in Billions)

Needs Category	1990 EPA Assessment	1990 State Estimate	Difference	Percent Difference
I (Secondary Treatment)	12.955	13.199	.244	2
II (More Stringent Treatment)	21.279	22.049	.770	4
IIIA (Infiltration/Inflow)	3.017	3.765	.748	25
IIIB (Replacement and/or Rehabilitation)	5.486	5.732	.246	4
IVA (New Collector Sewers)	16.979	17.790	.811	5
IVB (New Interceptor Sewers)	17.923	18.526	.603	3
V (Combined Sewer Overflows)	18.262	19.357	1.095	6
Total I, II, IVB	52.158	53.776	1.618	3
Total I-V	95.902	100.422	5.220	5
VI (Control of Stormwater)	54.133	57.250	3.117	6
Total I-VI	150.035	157.672	7.637	5

Table B - Comparison of 1976 Survey with Prior Surveys
(January, 1976 Dollars in Billions)

Needs Category	1976 Survey (1)	1975 NCWQ (2)	1974 Needs (3)	%Diff (1)to(2)	%Diff (1)to(3)
I (Secondary Treatment)	12.955	11.88	17.81	+ 9	-27
II (More Stringent Treatment)	21.279	27.28	22.24	-22	- 4
IIIA (Infiltration/Inflow)	3.017	7.59	7.42	-60	-59
IIIB (Replacement and/or Rehabilitation)	5.486	10.45	10.25	-48	-46
IVA (New Collector Sewers)	16.979	14.30	24.58	+19	-31
IVB (New Interceptor Sewers)	17.923	14.85	25.27	+21	-29
V (Combined Sewer Overflows)	18.262	87.56	43.51	-79	-58
Total I - V	95.902	173.91	151.08	-45	-37
VI (Control of Stormwater)	54.133	174.47	329.	-69	-84
Total I - VI	150.035	348.38	480.00	-57	-69

D. Assessment of Backlog

A new addition to the Survey in 1976 was the assessment of need for present populations (the backlog of need). Needs for Categories I-V present populations are estimated to be $75.1 billion, or seventy-eight per cent of the 1990 needs. Note that because of their nature, 1990 Needs for Categories IIIA and IIIB are almost exclusively all backlog needs as well. In addition, because of the limitations of eligibility for Category IVA as detailed in Section 211 of PL 92-500 and the Construction Grant Regulations (40 CFR 35.925-13), all of the Category IVA needs for 1990 are theoretically also backlog needs (see Section V for a discussion of the extent to which Category IVA in practice includes provision for future population growth). The differences, therefore, are most graphically illustrated in Categories I, II, and IVB, where backlog needs represent sixty-one percent of the 1990 needs. Backlog and 1990 needs are presented by Category in the following table:

Needs Category	1990 EPA Assessment	Backlog Estimate	Percent Difference
I (Secondary Treatment)	12.955	8.093	38
II (More Stringent Treatment)	21.279	11.313	49
IIIA (Infiltration/Inflow)	3.017	3.009	1
IIIB (Replacement and/or Rehab.)	5.486	5.165	6
IVA (New Collector Sewers)	16.979	16.979	0
IVB (New Interceptor Sewers)	17.923	12.318	31
V (Combined Sewer Overflows)	18.262	18.262	0
Total I, II, IVB	52.158	31.726	39
Total I-V	95.902	75.142	22
VI (Control of Stormwater)	54.133	34.528	36
Total I-VI	150.035	109.670	27

The costs reported for the backlog are sufficient only for facilities necessary to serve the June, 1975 populations. They do not include any costs for reserve capacity which would be required by the Act to be included in these facilities for population growth beyond 1975. They also exclude estimates for treatment plants and sewers that were not necessary at all in 1975, but are projected to be necessary for 1990 populations. Backlog needs, as determined by EPA, are shown in Table 36.

IV. COMPARISON WITH THE 1974 SURVEY

A. Categories I - IV

The estimates of needs for the 1976 Survey in Categories I-IV built on the experience and information from previous Needs Surveys. EPA, in consultation with a working group of State representatives, determined the Survey would be conducted for Categories I-IV on a facility-by-facility basis as in 1974. A consultant firm, Dames & Moore, was hired to augment the manpower available in EPA and the States. Survey guidance was prepared in conjunction with the States and discussed in detail during meetings held with the States at EPA's regional offices. The Survey form was reduced from a 37 page booklet to a single page and all data from the 1974 Survey were pre-printed on the form as a starting point for the 1976 effort.

Dames & Moore established its personnel in EPA's ten regional offices in the Spring of 1976 and prepared estimates facility-by-facility on the basis of information in regional and State files. States were asked to review and comment on estimates and provide assistance, subject to the constraint that adverse impact on the progress of the Construction Grants Program should be avoided as much as possible. Independent State estimates were recorded when agreement between the State and EPA was not possible.

The complete estimates were approved by the State and EPA and sent to Washington for a rigorous quality check and entry into the computer file. A listing of the data actually entered into the data file was mailed to the States in December for review to ensure that it conformed completely with the information submitted on the approved Survey forms.

Table B shows the 1976 Survey results compared with the 1974 Survey and the the National Commission on Water Quality Study of 1975, which relied heavily on 1974 Needs Survey data. The major reasons for the differences in these estimates for Categories I - IV are summarized below:

1. For all Categories, the 1974 Survey experienced widely varying assumptions resulting from less formalized Survey rules. The 1974 Survey also failed to allow for adequate cost variations due to local or regional construction conditions. Estimates for some facilities went up while others went down. The overall result of better guidance and an improved Survey form, however, was a net reduction in overall needs in all Categories.

2. Categories I, II, and IVB were substantially affected by the $8.3 billion of funds obligated between the 1974 and 1976 Surveys. The $8.3 billion included $6.3 billion in federal funds and $2.0 billion in local funds. Of the $8.3 billion, an estimated $4.2 billion was obligated for treatment plants (Categories I-II), $2.2 billion was for interceptors (Category IVB), and the remaining $1.9 billion was split among Categories IIIA, IVA, and V with a small amount going to Category IIIB.

3. Category IIIA was reduced in 1976 to less than half of the 1974 estimate, reflecting more accurate estimates based largely on infiltration/inflow analyses completed between the 1974 and 1976 estimates. The reduction also reflects elimination from Category IIIA of needs for control of pollution from infiltration and inflow into combined sewer systems. Such needs were frequently reported in both Categories IIIA and V in 1974. The guidance for the 1976 Survey required that all such needs be reported in Category V only.

4. Category IIIB was reduced in 1976 to about half the 1974 level, reflecting an elimination of costs which could not be documented by the States.

5. For new collector sewers (Category IVA), uniform application of reporting criteria plus more accurate reporting techniques have resulted in a 1976 estimate thirty-one percent below the 1974 estimate, even though less than 10 percent of the Federal grants made since the 1974 Survey have gone to collector sewers.

6. Category IVB (Interceptor Sewers) was about thirty percent lower in 1976 than in 1974, reflecting application of uniform reporting criteria as well as construction grant funding of an estimated $2.2 billion worth of projects between the two Surveys.

B. Category V

Estimates for Category V were prepared facility-by-facility for the 1973 and 1974 Surveys. EPA, in consultation with the States on the Needs Survey working group, concluded, however, that needs in Category V should be prepared by a consultant on the basis of a national uniform methodology, for the following reasons:

1. Previous estimates were completed for individual facilities in Category V, whereas they would be more appropriately made on a much larger, system-wide basis.

2. Previous estimates were based on assumptions that varied greatly from municipality to municipality and State to State.

3. Time and resource constraints did not permit an approach for this complex subject like that used in Categories I-IV. For Category V, it was not practical or possible to prepare and implement national guidance based on a detailed analysis of all data on the problem currently available at the local level.

The joint venture of Jordan, Jones & Goulding and Black, Crow & Eidsness prepared the methodology and the initial estimates in close consultation with EPA. The draft results were mailed to all States in October 1976, and subsequently discussed in detail with the States at meetings in EPA's ten regional offices. Numerous changes in the general methodology and in detailed input data were made as a result of comments received. The methodology, summarized below, is described fully in technical report "Summary of Technical Data for Combined Sewer Overflow and Stormwater Discharge" (MCD-48C).

The methodology used for estimating Category V needs was based on intensive analyses of the major factors which impact cost. These analyses used data from the balanced selection of ten cities across the country where detailed studies had been completed, and the most recent research and development in the field.

The major factors which determined Category V costs are assumptions about the type of pollutants to be controlled, the amount of pollutants to be controlled, the area from which pollutants are controlled, and the types and costs of technology used to achieve the desired control levels. The approach used for each of these factors is outlined below:

1. Type of Pollutants to be Controlled

   The methodology is based on control of suspended solids, dissolved oxygen and bacteria. Information is not sufficient to base a National needs estimate on removal of other pollutants such as nitrogen, phosphorus, heavy metals and pesticides, although the technologies selected in this Survey are likely to remove these pollutants to some extent.

2. Amount of Pollutants to be Controlled

   The amount of pollutants to be controlled in our methodology was assumed to be whatever is necessary to meet the 1983 goals of fishable-swimmable waters where attainable. Standards were established in two parts:

a. Minimum concentrations to be protected in the receiving waters, and;

b. Conditions (design storm) under which these concentrations would be protected or obtained. The design storm selected was the 98th percentile storm (that is, the concentrations established would be achieved for 98 percent of all anticipated storms).

The amount of pollutants to be controlled to meet standards was based on the following considerations:

a. Pollutant loadings from all dry and wet weather sources

b. The ability of a receiving water to assimilate the pollutant loadings

c. An estimate of the difference between actual pollutant loadings and what the stream could assimilate during and following the design storm event (i.e., a minus b).

3. Area From Which Pollutants Would be Controlled

The methodology assumed pollutants would be controlled from all combined sewer areas in the Country.

4. Types and Costs of Technology Used to Achieve Design Standards

The technology used included detention, screening, swirl concentration, sedimentation, air flotation, filtration and disinfection. The mix of technologies used was based on the level of control required to meet wet weather receiving water criteria. Costs of these technologies were estimated on the basis of the most recent literature in the field.

The methodology described above was incorporated into a detailed model along with information available urban areas, including population figures, cost index, precipitation, number of overflow points per combined sewer area, number of storms per year, annual rainfall, receiving water flow and type of receiving water. Needs were estimated in this model during a series of over 400 mathematical steps involving these data.

Cost estimates for Category V in 1976 are fifty-eight percent below 1974. To the extent generalizations are possible, the major reasons for differences between the 1974 and 1976 estimates are:

1. Assimilative Capacity

EPA's model estimated the pollutant loadings which could be assimilated by the receiving water, and the amount of pollutant removal assumed necessary was reduced accordingly. The 1974 estimate largely failed to take account of assimilative capacity area by area.

2. Mix of Technologies

The 1976 estimate provided a varied and sophisticated mix of technologies for a control of pollutant discharges. States in 1974 generally used more expensive technologies, often in a manner which would not prove cost-effective after detailed planning at the local level.

3. Design Storm

In Category V, EPA's model provided for control of the 98th percentile storm. Control of additional incremental percentages of storm events increases costs rapidly. Costs for control of 99.9 percent (roughly a ten year storm) of all storm events would, for example, be astronomical and provide little more water quality improvement than the 98th percentile storm.

Several States in 1974 estimated costs for facilities which would control completely a far higher percentage of storms than was assumed in EPA's model. These high percentages, though possibly appropriate under specialized local circumstances, in general are not considered cost-effective and therefore are not eligible for grant funding.

4. Conveyance Costs

EPA's 1976 model included costs for construction of new sewers in Category V only where necessary to convey overflows from the point of discharge to consolidated treatment facilities. The length and size of the sewer and number of treatment facilities allowed were a function of the area served by combined sewers.

Many states included costs in the 1974 Survey for Construction of new sewers to relieve problems of drainage and flooding during wet weather conditions. These costs were not included in the 1976 EPA assessments because they are not considered eligible for grant funding.

C. Category VI

The methodology utilized to estimate costs in Category VI was similar to that used for Category V. The same minimum pollutant concentrations were set for the receiving waters, although costs were estimated only for the 80th percentile storm. Pollutant loadings, assimilative capacity and control levels were estimated in the same manner. The area from which pollutants were controlled was assumed to be only Census-defined urbanized areas. The mix of technologies included best management practices (e.g., street sweeping) as well as treatment methods utilized in Category V. No conveyance costs were included, as pollutants were controlled at their source and at the point of discharge.

Cost estimates for 1976 were 84 percent lower than in 1974. The reasons include all those listed in the previous section for differences between 1974 and 1976 estimates in Category V. In addition, EPA's 1976 assessments in Category VI are restricted to control of pollutants from Census-defined urbanized areas.

The Agency's regulations for the National Pollutant Discharge Elimination System (NPDES) provide that only storm sewer systems in urbanized areas will be considered to be point sources subject to NPDES permits, unless specifically designated as a point source by the permitting authority. In the absence of a special designation, pollution from storm sewers outside urbanized areas is considered to be a non-point source problem and is ineligible for grant funds.

In the 1974 Survey, States normally estimated costs for controlling storm water pollution for urbanized areas plus other large areas, which accounts in part for the large difference between those estimates and the 1976 EPA assessments.

V. QUALITY OF FACILITY ESTIMATES, CATEGORIES I-V

The reliability of the cost estimates is dependent upon many factors. Highly accurate cost data can only be obtained if treatment facilities have been planned and designed adequately to meet projected water quality requirements. Also, cost estimation is related to the ability to discern "historical" cost trends based upon actual treatment plant cost experience. Accordingly, EPA studied a representative sample of wastewater treatment plants employing a variety of treatment technologies. Using these data EPA developed cost estimating procedures which were used in the cost estimation process when better quality data were not available.

Actual recent cost experience was studied in sewer construction and installation as well. EPA developed cost estimating procedures and rules of thumb for pipe costs when better data were not available.

Supplementary to EPA supplied treatment and pipe cost estimating procedures, differences in local construction costs were recognized by the provision of two construction cost multipliers for each of twenty-five areas of the United States. One multiplier was used when estimating treatment costs; the second was used for sewers.

The cost estimates for Categories I, II and IVB are considered most accurate because of the many years of experience with these types of construction costs. Also, facilities in these Categories have been subjected to the most rigorous planning requirements.

The cost estimates for Categories IIIA, IIIB, and V are not considered to be as accurate as those for the other Categories, but the estimates are considered to have greatly improved for these Categories.

Numerous infiltration/inflow studies and rules of thumb based on experience to date have resulted in a substantial improvement in the Category IIIa estimates. Estimating the repair cost of sewers which defy routine inspection creates a weakness in Category IIIB estimates. In addition, there are few instances nationwide where sewer replacement is anticipated prior to actual sewer collapse, a relatively common occurrence in older cities.

Category IVA (new collector sewers) costs are much improved since 1974. The quality of estimates in this Category degrades quickly as non-uniform assumptions concerning future populations are introduced. Therefore, Category IVA needs were limited to include provision for future populations of up to 1.5 times the 1972 population requiring new sewers, in accordance with the rule of thumb used in the construction grants program. Even though this limitation provides much better and more comparable eligible requirements for new collector sewers, it implicitly provides new collector sewer capacity for a great deal of future growth in vacant lots and on the fringes of communities in existence in 1972. Careful and detailed analysis of local conditions, as required in the facility planning process, would likely reduce the collector sewers eligible for construction grants below what was reported in the 1976 Survey. For this reason, the estimates in Category IVA, while 31 percent less than was reported in 1974, are still considered high.

For Category V, estimates are difficult to make due to the variations in the size, number and frequency of combined sewer overflows, the characteristics of the receiving waters, and many other factors. A substantial amount of study and research has been conducted on how much and what type of control of combined sewer overflows are required under varying conditions. The results of this work were incorporated in the model used in estimating needs for Category V, and the reported costs are considered much more comparable and reliable than in 1974. The shortcoming of this approach was that time and budgetary constraints forced the Agency and its contractor to depend on data about local conditions, such as rainfall, number of overflow points and receiving water characteristics, which were readily available in national studies or data files. The results, therefore, are not considered highly accurate for individual cities, although the State and national estimates are considered of good quality.

An important consideration for the entire discussion of the quality of cost estimates is the substantial upgrading of the quality of technical data supporting costs in this Survey, compared to prior Surveys. These data are so vastly improved that we are publishing them concurrently with this report. The reasons for this improvement are the work of the contractors, the existence of many new planning documents not previously completed, and the redesign of the Survey form to permit rapid comparison of Survey items.

VI. QUALITY OF CATEGORY VI ESTIMATE

For Category VI, the cost estimation methods are tentative at best. EPA estimates are based on a uniform methodology which incorporates the latest thinking in the field. The State of the art is not nearly so advanced as that for dealing with combined sewer overflows. Although further research may indicate that different approaches with substantially different costs are more appropriate than those utilized for the 1976 Survey, the 1976 results are considered a much better approximation of stormwater pollution control costs than the $329 billion reported in the 1974 Needs Survey.

The results which may be obtained by utilizing a different methodology are highlighted dramatically by a study conducted in conjunction with the 1974 needs Survey for the State of California. This study estimated Category VI needs for the State at between $9.8 and $98 billion dollars (1976 dollars), depending on how certain basic assumptions were varied. The results of the study, even the lower estimate, were much higher than the estimates for California in the 1976 Survey, which used a more sophisticated methodology based on the current state of the art.

VII. CONCLUSIONS

The 1976 Needs Survey is the best estimate available of the nationwide costs of compliance with the goals of the FWPCA. It is clear from the 1976 Needs Survey that in order to meet the water quality goals of the Act, a substantial amount of public monies will be required. For the first time in a Needs Survey, however, the effects of the public funds spent to date are noticeable in Categories I, II and IV.

VIII. FUTURE NEEDS SURVEYS

Because of the lead time required, planning for the 1978 Needs Survey is already in the formative stages. Our assessment is that the 1978 Needs Survey will be the last such Survey which will require a massive field operation as needed in the past.

Our intention in the 1978 Needs Survey is to improve the estimates in Category V for controlling pollution from combined sewer overflows by gathering and utilizing better and more detailed data on local conditions than time and money would permit in 1976.

It is our hope in 1978 to complete an inventory of wastewater treatment facilities as part of the Needs Survey. This inventory will facilitate the identification of all needs and give us the ability to utilize fully the needs Survey data as a program management tool. The complete inventory will assist the States in the preparation of priority lists for the construction grants program, and provide essential information for planning under Section 208 of the FWPCA. The technical data will be very helpful for overall program planning and evaluation. Once the inventory of needs is completed, revisions can be made on the basis of subsequent planning and construction at less cost than was incurred in the past.

APPENDIX I

CONDUCT OF THE SURVEY

I. Categories I- IV

A. Background

Drawing on the experience of prior Surveys, EPA and the States formed a working group to determine the strategy for the conduct of the 1976 Survey. Several Survey goals were identified by the group:

1. That the Survey identify and quantify all needs,
2. That the conduct of the Survey be nationally uniform,
3. That the utlization of scarce State personnel and dollar resources for the Survey be minimized.

The Survey approach taken for Categories I-IV as a result of these recommendations was:

1. An independent consultant, paid by EPA, would conduct the Survey on a facility-by-facility basis for Categories I-IV. The consultant's personnel were to be based in EPA regional offices, but would visit State and local offices as required to formulate cost estimates. The engineering firm of Dames and Moore, with headquarters in Los Angeles, California, with company resources sufficient for this large effort, was competitively selected.

2. Survey guidance and methodology were formulated for Categories I-IV in draft, and circulated to all parties involved in the Survey. State comments were solicited, and final guidance was issued which reflected those comments.

3. While national uniformity of estimating procedures was a Survey goal, the cost and construction differences inherent to various sections of the country were recognized and accommodated.

The formal Survey of Categories I - IV was started with orientation meetings conducted in EPA regional offices where logistics, target dates, and individual State problems were discussed and resolved. States were asked only to provide as much investment in personnel for the Survey as they considered prudent; but were invited to participate fully in the formal field Survey work.

The Survey field work was conducted in the spring, summer, and fall of 1976. At the same time work on Categories V and VI was undertaken by that consultant.

In November, 1976, a draft of the results of the Category V and VI work was mailed to States with a request for review. Substantial changes were made on the basis of comments from the States.

As estimates for Categories I-IV were completed, copies of the estimates were reviewed by States on a facility-by-facility basis. When cost agreement between EPA and State personnel could not be reached, separate estimates were submitted by States and have been included in this report.

Facility estimates were reviewed and accepted and/or approved at four levels: 1) contractor, 2) EPA Regional Office, 3) State and 4) EPA Headquarters.

After machine preparation, copies of the revised facility data for Categories I-IV were mailed to the States for review on December 10, 1976.

B. Survey Methodology - Operational Guidance for Categories I-IV

Participant guidance for the Survey was formulated by EPA, the States, and the consultant working closely together. This document included the following subjects:

1. Responsibilities of the participants.
2. Target dates for project milestones including the calendar for the Survey and the consultant's contractual obligations.
3. Descriptions of all data sources to be provided to participants to aid in completion of the Survey.
4. Briefing schedules for the participants.
5. Provisions for State and Regional review of consultants data prior to finalization.
6. Definitions of terms for needs purposes. Standards were established for definitions of secondary treatment, design year, units of measurement, cost estimating, basis of cost estimate, Survey samples, design flows, and infiltration/inflow reporting.
7. Specific guidelines for completing Survey forms.
8. EPA adjustments to the 1974 Needs data base prior to its use as a starting point in 1976.

9. Cost estimating procedures to be used when more reliable local procedures were not available. These included estimating procedures for treatment costs and new sewers, with factors provided for determination of cost variation in any of twenty-five areas in the vicinity of major cities in the U.S.

10. Interceptor sewer sizing tables.

As a result of meetings and other communications with all the States, the guidance was supplemented by request to include:

1. "Rules of Thumb" for estimating needs based on best engineering judgement. All of the participants understood that rules of thumb would be used only when better information was not available. In many cases, States presented data which caused the rules of thumb to be modified for local conditions. Examples are:

    a. Per capita domestic and commercial flows were not allowed to exceed 125 gallons per day for treatment unless the locality could substantiate a history of higher flows more cost effective to treat than to correct.

    b. Collector and interceptor lengths were limited to twenty feet and one foot per capita, respectively, of unsewered population. Many local exceptions were made to this rule where past experience had shown differences.

2. A procedure for designating the basis of estimate.

3. Additional cost data, showing national capital costs for:

    a. chlorination facilities

    b. pumping stations

    c. filtration systems

    d. waste stabiliztion ponds

    e. aerated lagoons

4. Procedures for estimating backlog needs for all Categories.

5. Instructions for reconcilation of populations.

6. Guidance for estimation of collector sewer costs.

7. Information on grant eligibilities for land costs.

8. Guidance for estimation of I/I analysis costs.

C. Basis of Cost Estimate for Categories I-IV

All individual cost estimates made in Categories I-IV of the Survey were to be accompanied with a basis of cost estimate, so that the quality of the estimate can be better determined. EPA has determined that the quality of cost estimates can be ranked from high to low as follows:

1. Engineer/Consultant Firm Estimate
2. Engineer/Consultant Preliminary Estimate
3. Cost-Effective Analysis
4. Cost of Previous Comparable Construction
5. EPA Supplied Cost Estimating Procedures
6. Rough Estimates

Table A-3 in Appendix IV shows the percent of State needs reported by basis of estimate. Table A-4 in Appendix IV shows the relative quality of estimates by Needs Survey Category. Note that three bases of estimate (State Certification, Analysis Completed, and Evaluation Survey Completed), refer to Category III needs only, and have no application to other Categories.

These tables show that the quality of the cost estimates made in the 1976 Survey is substantially higher than in 1974, when twenty-seven percent of needs used rough estimates or no basis of estimate.

These tables also show a smaller reliance on EPA supplied cost estimating procedures than in the past (39 to 32.8 per cent), and a significant increase in that portion of needs reported as engineer consultant preliminary estimates (14.7 to 51 per cent). This has occurred because of a greater number of facilities and basin plans available now than in 1974, as well as the shift of bases of estimate from "other" to more reliable bases.

D. Data Sources for Categories I-IV

1. The types of data needed in the Survey and the sources used to access these data were many. The major types of data used were:

population (1990 and present)
total flow (average, current design and projected 1990 design)
industrial flow (average, current design and projected 1990 design)
biological oxygen demand (average, current design and projected 1990 design)
nitrogen and phosphorus removal requirements (average, current design and projected 1990 design)
treatment methods
sludge handling and treatment methods
level of treatment required.

2. The sources of these data were:

1974 Needs Survey data
NPDES Applications and Permits
Grant Application Files
Grant Files and Grant Information Control System Data
Regional and/or Basin Plans (201 and 208 plans)
Other Engineering Plans or Reports
State Water Quality Standards.

E. Survey Preparation

The 1974 Survey form, a 37-page booklet, was revised to one page. A new Survey form for each facility surveyed in 1974 was generated by computer showing the 1974 Data of Record for each facility. Once the revised cost estimates were recorded on Survey forms for each facility, copies of the completed forms were provided for all parties participating in the Survey, primarily for State review and revision. The forms were then used to record the updated 1976 Needs Survey figures.

Census data for 1975 and 1990 populations, as modified by formally granted exceptions, were used as State ceilings, and State population totals were not permitted to exceed these ceilings.

As Survey forms were completed, they were double checked by EPA for the accuracy of the data collected and submitted. Each State was then given the opportunity to review and comment upon the revised data shown on Survey forms, and to review the total cost estimates for the State.

Where differences over cost estimates were not resolved, States submitted independent cost estimates on the form. Few independent State estimates were required.

II. Categories V and VI

A. Survey Methodology for Category V

The methodology for estimating the cost to control combined sewer overflows to prevent periodic bypassing of untreated wastes from combined sewers was based on detailed studies of eight major factors. These factors were studied at ten sites in the U.S. Data generated by the ten sites study were used to develop a generalized relationship among urban area characteristics, receiving water characteristics, and the degree of treatment required to control combined sewer overflows. The relationship was then applied to each of the 320 urbanized areas (or State's portion of an interstate urbanized area). The resulting Statewide per acre cost estimates for contract of combined sewer overflows were applied in the estimates of the Statewide cost estimates for non-urbanized combined sewer areas.

The eight major factors which affect Category V costs are as follow:

1. Pollutants to be Controlled.

   From a detailed review of State and Federal water quality criteria and available treatment and control techniques, the significant pollutants considered for the needs cost estimates relate to solids, dissolved oxygen, and bacteria. Many other pollutants have been found by specific investigations such as nitrogen, phosphorus, dissolved solids, heavy metals and pesticides. These pollutants may cause significant water quality problems in specific areas; they have not been included because of the scarcity of both concentration and impact data.

2. Water Quality Standards.

   The wet-weather water quality criteria applied to delineate the assimilative capacity of a receiving water are as follows:

   a. All waters are to be aesthetically compatible to adjacent areas.

   b. All waters shall be free from oil, scum and floating debris associated with cultural activities.

   c. All waters shall be free from materials which will settle and form significant sediment or sludge deposits that become unsightly or interfere with stream capacities.

   NOTE: The above criteria apply to all urbanized waters of the Nation, and apply to streams which can be documented as being intermittent or ephemeral and whose major use is aesthetic or drainage.

d. Dissolved Oxygen: A daily average of 5.0 mg/l and no less than 4.0 mg/l at all times.

e. pH: Within the range of 6.0 - 8.5.

f. Solids: Suspended solids not to exceed a monthly average of 80 mg/l or a maximum value of 400 mg/l.

g. Bacteria: Fecal Coliform not to exceed a geometric mean of 200 per 100 ml and not to exceed 400 per 100 ml in more than 10% of the samples collected in any month.

NOTE: The above four criteria shall apply to continuously flowing streams which can provide full body contact recreation.

3. Costs of Alternative Technologies

Five control technologies with as many pollutant control levels are costed; the one selected for each urbanized area will be dissussed under Section 8 below:

a. The first and lowest level of treatment provides for pumping and swirl concentration of the runoff from a 98th percentile storm. The first flush of this runoff is stored as well as the concentrated flow from the swirl concentrator; the total stored volume is 15.4% of the runoff from the 98th percentile storm. The treated discharge from the swirl concentrator is disinfected and discharged. The stored volume is pumped through an interceptor to a number of consolidated treatment plants; both are sized to empty and treat the stored volume during the average time between storms. The consolidated treatment facilities which handle only wet-weather overflows consist of flow measurement, stationary screening and landfill disposition of the solids.

b. The second level of treatment provides for 100% storage at the overflow point for the runoff from a 98th percentile storm. The stored volume is pumped through an interceptor to a number of consolidated treatment plants; both are sized to empty and treat the stored volume during the average time between storms. The consolidated treatment facilities which handle only overflows consist of sedimentation, flow measurement, disinfection, solids processing, lime stabilization, filter press, and landfill processes.

c. The third level of treatment is higher than the second and is similar to the above level two process with the following changes: sedimentation is replaced by a chemical addition and mixing and a dissolved air floatation process.

d. The fourth level of treatment, with a treatment level higher than the second, is similar to the second level process with the following changes: chemical addition, rapid mix, coagulation, and flocculation processes are added.

e. The fifth level of treatment is similar to the fourth level of treatment except that a filtration process is added.

4. Total Pollutant Sources from Dry-Weather Sources.

The pollutant loadings from dry-weather sources, such as municipal and industrial dry-weather sources, are assumed to meet 1983 secondary treatment requirements and that each population equivalent contributes:

a. 125 gallons of wastewater per day, and

b. 0.0255 pounds of BOD per day after treatment.

5. Pollutant Loads from Wet-Weather Discharges.

The pollutant load from combined sewer overflows is predicted for the design storm based on the population density of the combined sewer area. The relationship was developed by the American Public Works Association and the University of Florida based on measured data. The measured data does vary about the line representing the predictive loading equation.

6. Assimilative Capacity of Receiving Waters.

The assimilative capacity of the predominant receiving waters of each urbanized area is characterized as two variables, the annual average three month summer flow and the dissolved oxygen reaeration rate. Where two or more urbanized areas are located in close proximity on the same receiving waters, the available receiving water flow is divided to each urbanized area in direct proportion to the total pollutant loads from each area.

7. Pollutant Control Levels Required to Meet Receiving Water Criteria

The relationship between the assimilative capacity of a receiving water to the degree of treatment required is based on two detailed studies at each of the ten sites in the U.S. The five-day BOD removal required is based on a relationship established from the site studies in which the five-day BOD removal required is directly proportional to the total five-day BOD load discharged to the stream and inversely proportional to the product of the associated total stream flow downstream of the urbanized area and the reaeration rate of the receiving water. Both the wet and dry weather hydraulic and five-day BOD loads from combined sewer areas and storm sewered areas of each urbanized area are used in the calculation of the BOD removal efficiency required.

8. Types and Costs of Alternatives Necessary to Meet Receiving Water Quality Criteria

The following table shows the Nationwide distribution of combined sewer overflow treatment levels required to meet the recreational water quality criteria described, while taking into account the assimilative capacity of the receiving water.

Combined Sewer Overflows Treatment Level Selected	Percent of Urbanized Areas Requiring Selected Treatment Levels
1	50%
2	15%
3	12%
4	10%
5	13%
Total	100%

Thus 50% of the urbanized areas did not require more than the minimum level of combined sewer overflow treatment. This minimum level is required to ensure the disinfection of combined sewer overflows from the 98th percentile storm to preserve recreational receiving water uses.

The remaining 50% of the urbanized areas required higher levels of treatment primarily to meet dissolved oxygen requirements through five-day BOD removal from combined sewer overflows.

B. Survey Methodology for Category VI

The methodology for estimating the cost to provide control and/or treatment of urban stormwater runoff channeled through sewers and other conveyances used only for such runoff is based on the same detailed studies of eight major factors and ten detailed site studies as the Category V cost estimation methodology. The cost estimates by State (and Territory) are based on regulations for the application of the NPDES Permit Program to separate storm sewers were published in the Federal Register of March 18, 1976. In these regulations, the term "separate storm sewer" is defined as "a conveyance or system of conveyances . . . located in an urbanized area and primarily operated for the purpose of collecting and conveying stormwater runoff." In accordance with this guideline, the geographical areas which require control and/or treatment of urban stormwater runoff was assumed to be the urbanized areas of the nation as defined by the U.S. Bureau of Census. The specific criteria for the delineation of an urbanized area is as follows:

1. A central city of 50,000 inhabitants or more, or twin cities with a combined population of at least 50,000, and with the smaller of the twin cities having a population of at least 15,000; and

2. Surrounding closely settled territory.

The eight major factors which affect Category VI cost estimates are as follow:

1. Pollutants to be Controlled: Same as for Category V.

2. Water Quality Standards: Same as for Category V.

3. Cost of Alternative Technologies.

   Five control technologies with as many pollutant control levels are costed; the one selected will be discussed under factor 7 below.

   a. The first and lowest level of control of stormwater pollutants is provided by streetsweeping all streets in the urbanized area once per week, and the provision of detention basins sized for an 80th percentile storm, in the newly developed areas. The 80th percentile storm is also used to size the treatment processes comprising the remaining four stormwater control levels. Also included in the following four levels is the cost of sludge pumping and disposal.

   b. The second level of control provides storage at each stormsewer discharge point. (The number of discharge points is based on the average combined sewer area drainage area due to the lack of other Nationwide information.) The amount of storage is sized for an

80th percentile storm. The stored volume is pumped through a treatment plant at each overflow site. The treatment plants are comprised of the following processes: sedimentation, flow measurement, solids processing, lime stabilization, filter press, and landfill process.

c. The third, fourth and fifth levels of control are similar to the second, third and fourth control levels described for Category V.

4. Total Pollutant Sources from Dry-Weather Sources: same as for Category V.

5. Pollutant Loads from Wet-Weather Discharges.

The pollutant load from stormsewer discharges is predicted for the design storm based on the population density of the noncombined sewer portion of the urbanized area. The relationship was developed by the American Public Works Association and the University of Florida based on measured data. The measured data do vary about the line representing the population loading equation. The pollutant loads are for the 80th percentile design storm.

6. Assimilative Capacity of Receiving Waters: Same as for Category V.

7. Pollutant Control Levels Required to Meet Receiving Water Criteria: Same as for Category V.

8. Types and Costs of Alternatives Necessary to Meet Receiving Water Quality Criteria.

The following table shows the Nationwide distribution of stormwater discharges treatment levels required to meet the recreational water quality criteria described while taking into account the assimilative capacity of the receiving waters.

Urban Stormwater Discharges Treatment Level Selected	Percent of Urbanized Areas Requiring Selected Treatment Level
1	71%
2	8%
3	9%
4	- - -
5	12%
TOTAL	100%

Thus 71% of the urbanized areas did not require more than the minimum level of urban stormwater treatment. This minimum level is required to meet the water quality standards described.

The remaining 29% of the urbanized areas required higher levels of treatment primarily to meet suspended solids requirements through suspended solids removal from urban stormwater runoff.

APPENDIX II

SUMMARY TABLES

Cost data summarized from Survey data are presented in summary tables included in this Appendix. The following tables show costs by State and U.S. totals:

Table 1 - EPA Assessments of Needs by Category.

Table 2 - Independent State Estimates of Needs by Category.

Table 3 - Comparison of 1976 and 1974 EPA per capita assessments, Categories I-V.

Table 4 - 1976 EPA Assessments compared to 1974 EPA Assessments, Categories I-V.

Table 5 - Comparison of 1976 and 1974 EPA Assessments for Treatment Plants, Categories I and II.

Table 6 - Comparison of 1976 and 1974 EPA Assessments for Categories I, II, and IVB.

Table 7 - Comparison of 1976 and 1974 EPA Assessments for Category I.

Table 8 - Comparison of 1976 and 1974 EPA Assessments for Category II.

Table 9 - Comparison of 1976 and 1974 EPA Assessments for Category IIIA.

Table 10 - Comparison of 1976 and 1974 EPA Assessments for Category IIIB.

Table 11 - Comparison of 1976 and 1974 EPA Assessments for Category IVA.

Table 12 - Comparison of 1976 and 1974 EPA Assessments for Category IVB.

Table 13 - Comparison of 1976 and 1974 EPA Assessments for Category V.

Table 14 - Comparison of 1976 and 1974 EPA Assessments for Category VI.

Table 15 - Per Capita Costs for 1990 and Present Population, Categories I-V.

Table 16 - Per Capita Costs for 1990 and Present Population, Categories I, II, and IVB.

Table 17 - Per Capita Costs for 1990 and Present Population, Category I.

Table 18 - Per Capita Costs for 1990 and Present Population, Category II.

Table 19 - Per Capita Costs for 1990 and Present Population, Category IIIA.

Table 20 - Per Capita Costs for 1990 and Present Population, Category IIIB.

Table 21 - Per Capita Costs for 1990 and Present Population, Category IVA.

Table 22 - Per Capita Costs for 1990 and Present Population, Category IVB.

Table 23 - Per Capita Costs for 1990 and Present Population, Category V.

Table 24 - Comparison of 1976 EPA Assessments with State Estimates for Categories I-V.

Table 25 - Comparison of per capita differences between the EPA and State estimates, Categories I-V.

Table 26 - Comparison of 1976 EPA and State Estimates, Categories I, II, and IVB.

Table 27 - Comparison of 1976 EPA and State Estimates, Categories I and II.

Table 28 - Comparison of 1976 EPA and State Estimates, Category I.

Table 29 - Comparison of 1976 EPA and State Estimates, Category II.

Table 30 - Comparison of 1976 EPA and State Estimates, Category IIIA.

Table 31 - Comparison of 1976 EPA and State Estimates, Category IIIB.

Table 32 - Comparison of 1976 EPA and State Estimates, Category IVA.

Table 33 - Comparison of 1976 EPA and State Estimates, Category IVB.

Table 34 - Comparison of 1976 EPA and State Estimates, Category V.

Table 35 - Comparison of 1976 EPA and State Estimates, Category VI.

Table 36 - Needs for Current Populations (Backlog) Categories I-VI

Table 37 - Comparison of 1990 and Backlog Needs, Categories I-V.

Table 38 - Comparison of 1990 and Backlog Needs Categories I, II, and IVB.

Table 39 - Per Capita Backlog of Need, Categories I, II, and IVB.

FEBRUARY 10, 1977
TABLE 1

1976 NEEDS SURVEY

EPA ASSESSMENTS FOR CONSTRUCTION OF PUBLICLY-OWNED WASTEWATER TREATMENT FACILITIES

MILLIONS OF 1976 DOLLARS

CATEGORIES I THRU V

	TOTAL	I	II	III A	III B	IV A	IV B	V
ALABAMA	865	164	254	65	2	286	172	0
ALASKA	327	110	25	1	0	68	118	3
ARIZONA	458	216	5	1	0	103	131	0
ARKANSAS	517	78	207	21	0	107	56	46
CALIFORNIA	5,544	2,187	1,184	90	9	838	847	385
COLORADO	697	90	380	20	237	8	37	3
CONNECTICUT	1,273	129	63	31	10	467	183	387
DELAWARE	269	0	94	3	1	32	96	39
DIST. OF COLUM.	227	0	12	58	0	0	7	149
FLORIDA	3,726	286	1,209	95	6	1,139	989	0
GEORGIA	1,635	98	607	41	0	211	374	301
HAWAII	752	320	0	0	0	128	303	0
IDAHO	437	131	47	16	0	94	138	8
ILLINOIS	5,365	51	1,775	103	58	333	459	2,585
INDIANA	3,164	80	753	201	57	458	380	1,232
IOWA	1,035	236	410	56	0	92	148	90
KANSAS	679	271	25	33	0	77	162	107
KENTUCKY	1,283	46	427	64	0	226	385	132
LOUISIANA	707	314	75	109	2	97	107	0
MAINE	962	119	16	14	3	183	142	402
MARYLAND	2,912	7	1,201	21	1,128	68	444	47
MASSACHUSETTS	3,400	705	287	16	46	834	633	876
MICHIGAN	5,133	29	901	73	578	1,239	973	1,347
MINNESOTA	1,610	0	874	24	10	178	307	223
MISSISSIPPI	750	65	370	109	2	52	149	0
MISSOURI	2,590	659	7	19	0	159	452	1,292
MONTANA	126	43	15	6	1	17	42	0
NEBRASKA	409	163	24	4	0	14	57	146
NEVADA	265	51	118	2	0	26	51	14
NEW HAMPSHIRE	1,041	169	78	6	3	216	258	307
NEW JERSEY	3,252	803	714	125	27	397	579	604
NEW MEXICO	148	66	32	4	0	23	79	0
NEW YORK	14,514	2,531	1,241	148	2,525	3,248	2,155	2,663
NORTH CAROLINA	1,213	72	522	57	0	147	412	0
NORTH DAKOTA	73	39	0	0	1	5	13	12
OHIO	7,192	28	2,062	629	357	974	1,373	1,765
OKLAHOMA	516	8	279	32	12	66	116	0
OREGON	1,382	93	314	116	34	243	370	210
PENNSYLVANIA	3,806	258	1,257	33	0	951	485	820
RHODE ISLAND	722	57	78	8	0	230	82	264
SOUTH CAROLINA	957	180	226	38	0	168	342	0
SOUTH DAKOTA	137	23	86	4	0	3	18	1
TENNESSEE	1,279	89	393	52	0	307	252	183
TEXAS	2,814	8	1,375	178	61	460	680	48
UTAH	270	0	167	42	0	35	25	0
VERMONT	388	45	67	1	5	78	27	161
VIRGINIA	1,583	403	307	29	1	194	402	244
WASHINGTON	1,999	406	239	107	136	392	374	341
WEST VIRGINIA	2,184	260	86	7	0	626	776	426
WISCONSIN	1,976	165	414	72	143	421	481	277
WYOMING	67	60	0	1	0	0	4	0
AMERICAN SAMOA	59	28	0	0	2	7	22	0
GUAM	94	23	9	0	6	31	17	22
PUERTO RICO	898	352	19	6	11	248	268	0
PAC. TR. TERR.	150	120	0	0	0	35	3	0
VIRGIN ISLANDS	45	4	13	0	0	23	3	0
U.S. TOTALS	95,902	12,955	21,279	3,017	5,486	16,979	17,923	18,261

NOTE: SUM OF ENTRIES MAY NOT EQUAL TOTALS DUE TO ROUNDING

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FEBRUARY 10, 1977
TABLE 2

1976 NEEDS SURVEY

STATE ESTIMATES FOR CONSTRUCTION OF PUBLICLY-OWNED WASTEWATER TREATMENT FACILITIES
MILLIONS OF 1976 DOLLARS

CATEGORIES I THRU V

	TOTAL	I	II	III A	III B	IV A	IV B	V
ALABAMA	865	164	254	65	2	206	172	0
ALASKA	329	110	25	1	0	68	118	5
ARIZONA	458	216	5	1	0	103	131	0
ARKANSAS	519	78	208	21	0	107	56	46
CALIFORNIA	6,420	2,187	1,184	90	9	838	847	1,261
COLORADO	707	91	300	29	237	8	37	3
CONNECTICUT	1,293	145	63	31	10	470	185	387
DELAWARE	269	0	94	3	1	32	96	39
DIST. OF COLUM.	227	0	12	58	0	0	7	149
FLORIDA	3,726	286	1,209	95	6	1,139	989	0
GEORGIA	1,635	98	607	41	0	211	374	301
HAWAII	763	331	0	0	0	128	302	0
IDAHO	440	133	47	16	0	96	138	8
ILLINOIS	5,379	51	1,776	103	60	344	459	2,585
INDIANA	3,245	85	769	207	65	482	402	1,232
IOWA	1,085	236	410	56	0	92	198	90
KANSAS	838	299	125	37	1	78	187	107
KENTUCKY	1,283	46	427	64	0	226	385	132
LOUISIANA	707	314	75	109	2	97	107	0
MAINE	962	119	16	14	3	183	142	482
MARYLAND	2,912	7	1,201	21	1,128	60	444	47
MASSACHUSETTS	3,400	705	287	16	46	834	633	876
MICHIGAN	5,146	29	905	77	582	1,230	973	1,347
MINNESOTA	1,610	0	874	24	10	170	307	223
MISSISSIPPI	750	65	370	109	2	52	149	0
MISSOURI	2,590	659	7	19	0	159	452	1,292
MONTANA	127	43	15	6	1	17	42	0
NEBRASKA	410	163	24	4	0	14	57	146
NEVADA	265	51	118	2	0	26	51	14
NEW HAMPSHIRE	1,041	169	78	6	3	216	258	307
NEW JERSEY	3,271	796	712	140	27	399	589	604
NEW MEXICO	148	66	32	4	0	23	20	0
NEW YORK	16,510	2,679	1,870	148	2,648	3,973	2,525	2,663
NORTH CAROLINA	1,213	72	522	57	6	147	412	0
NORTH DAKOTA	77	42	0	0	1	5	14	12
OHIO	7,270	28	2,062	629	432	975	1,375	1,765
OKLAHOMA	524	9	279	33	12	72	116	0
OREGON	1,486	93	314	219	34	243	370	210
PENNSYLVANIA	3,806	258	1,257	33	0	951	485	820
RHODE ISLAND	772	57	80	13	0	230	125	264
SOUTH CAROLINA	957	180	226	38	0	168	342	0
SOUTH DAKOTA	137	23	86	4	0	3	18	1
TENNESSEE	1,279	89	393	52	0	307	252	183
TEXAS	2,881	8	1,392	228	61	460	680	48
UTAH	270	0	167	42	0	35	25	0
VERMONT	392	46	67	4	6	78	27	161
VIRGINIA	1,757	403	307	156	21	211	412	244
WASHINGTON	2,437	406	239	521	136	392	399	341
WEST VIRGINIA	2,184	260	[illegible]	7	0	626	776	426
WISCONSIN	2,194	165	414	72	143	421	481	495
WYOMING	67	60	0	1	0	0	4	0
AMERICAN SAMOA	59	28	0	0	2	7	22	0
GUAM	94	23	0	0	0	31	17	22
PUERTO RICO	1,009	384	20	13	24	258	308	0
PAC. TR. TERR.	150	110	0	0	0	35	3	0
VIRGIN ISLANDS	52	9	13	0	0	23	5	0
U.S. TOTALS	100,422	13,199	22,049	3,765	5,732	17,790	18,526	19,357

NOTE: SUM OF ENTRIES MAY NOT EQUAL TOTALS DUE TO ROUNDING

A16.2

FEBRUARY 10, 1977
TABLE 3

1976 NEEDS SURVEY

PER CAPITA COSTS FOR CONSTRUCTION OF PUBLICLY-OWNED TREATMENT FACILITIES

BASED ON 1990 POPULATION
* THOUSANDS OF 1976 DOLLARS
POPULATIONS IN THOUSANDS
CATEGORIES I THRU V

	1974 EPA * ESTIMATE	1976 EPA * ASSESSMENT	1990 POP.	1974 COSTS PER CAPITA	1976 COSTS PER CAPITA	CHANGE IN PER CAPITA COSTS
ALABAMA	1,095,570	865,736	3,050	284	224	-60
ALASKA	568,230	327,358	408	1,392	802	-590
ARIZONA	703,590	458,560	3,384	207	135	-72
ARKANSAS	1,264,770	517,830	2,225	568	232	-336
CALIFORNIA	8,753,200	5,544,170	26,601	329	208	-121
COLORADO	737,430	697,360	3,400	216	205	-11
CONNECTICUT	2,236,260	1,273,296	3,946	566	322	-244
DELAWARE	768,450	269,923	793	969	340	-629
DIST. OF COLUM.	1,481,910	227,050	764	1,939	297	-1,642
FLORIDA	3,811,230	3,726,619	11,728	324	317	-7
GEORGIA	2,138,970	1,635,482	5,667	377	288	-89
HAWAII	737,430	752,066	1,132	651	664	+13
IDAHO	551,310	437,066	900	612	485	-127
ILLINOIS	8,788,530	5,365,808	13,177	666	407	-259
INDIANA	4,091,820	3,164,264	6,433	636	491	-145
IOWA	1,283,100	1,035,872	3,053	420	339	-81
KANSAS	2,514,030	679,048	2,509	1,002	270	-732
KENTUCKY	2,570,430	1,283,045	3,741	687	342	-345
LOUISIANA	1,806,210	707,105	4,159	434	170	-264
MAINE	809,340	962,282	1,142	708	842	+134
MARYLAND	5,133,810	2,912,881	5,318	965	547	-418
MASSACHUSETTS	4,176,420	3,400,433	7,052	592	482	-110
MICHIGAN	11,422,410	5,133,255	10,961	1,042	468	-574
MINNESOTA	1,873,890	1,610,440	4,577	409	351	-58
MISSISSIPPI	695,130	750,325	2,359	294	318	+24
MISSOURI	3,240,180	2,590,169	5,488	590	471	-119
MONTANA	174,840	126,902	757	230	167	-63
NEBRASKA	1,300,020	409,771	1,562	832	262	-570
NEVADA	294,690	265,232	933	315	284	-31
NEW HAMPSHIRE	1,040,580	1,041,471	1,019	1,021	1,022	+1
NEW JERSEY	6,897,720	3,252,921	8,822	781	368	-413
NEW MEXICO	218,550	148,310	1,300	168	114	-54
NEW YORK	21,575,820	14,514,325	21,799	989	665	-324
NORTH CAROLINA	2,085,390	1,213,386	5,880	354	206	-148
NORTH DAKOTA	265,080	73,300	606	437	120	-317
OHIO	10,958,520	7,192,173	13,202	830	544	-286
OKLAHOMA	2,089,620	516,837	2,942	710	175	-535
OREGON	1,522,800	1,382,726	2,943	517	469	-48
PENNSYLVANIA	7,688,730	3,806,422	13,342	576	285	-291
RHODE ISLAND	628,860	722,882	1,134	554	637	+83
SOUTH CAROLINA	1,376,160	957,225	3,023	455	316	-139
SOUTH DAKOTA	105,750	137,654	643	164	214	+50
TENNESSEE	1,701,870	1,279,448	4,800	354	266	-88
TEXAS	4,541,610	2,814,460	15,351	295	183	-112
UTAH	410,310	270,375	1,509	271	179	-92
VERMONT	284,820	388,850	536	531	725	+194
VIRGINIA	2,655,030	1,583,252	5,958	445	265	-180
WASHINGTON	2,587,350	1,999,294	4,194	616	476	-140
WEST VIRGINIA	3,326,190	2,184,400	1,845	1,802	1,183	-619
WISCONSIN	2,879,220	1,976,821	5,218	551	378	-173
WYOMING	117,030	67,338	600	195	112	-83
AMERICAN SAMOA	71,910	59,940	40	1,797	1,498	-299
GUAM	131,130	94,204	275	476	342	-134
PUERTO RICO	848,820	898,507	3,786	224	237	+13
PAC. TR. TERR.	273,540	150,217	205	1,334	732	-602
VIRGIN ISLANDS	62,040	45,805	116	534	394	-140
U.S. TOTALS	151,367,730	95,902,490	259,107	584	370	-214

A 16.3

FEBRUARY 10, 1977
TABLE 4

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS
FOR CONSTRUCTION OF PUBLICLY-OWNED WASTEWATER TREATMENT FACILITIES

THOUSANDS OF 1976 DOLLARS
CATEGORIES I THROUGH V

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE
ALABAMA	1,095,570	865,736	-229,834	0.7237	0.9027	+0.1789
ALASKA	568,230	327,358	-240,872	0.3753	0.3413	-0.0340
ARIZONA	703,590	458,568	-245,022	0.4643	0.4781	+0.0133
ARKANSAS	1,264,770	517,830	-746,940	0.8355	0.5399	-0.2956
CALIFORNIA	8,753,280	5,544,170	-3,209,110	5.7827	5.7810	-0.0017
COLORADO	737,430	697,360	-40,070	0.4871	0.7271	+0.2399
CONNECTICUT	2,236,260	1,273,296	-962,964	1.4773	1.3276	-0.1496
DELAWARE	768,450	269,923	-498,527	0.5076	0.2814	-0.2262
DIST. OF COLUM.	1,481,910	227,050	-1,254,860	0.9790	0.2367	-0.7422
FLORIDA	3,811,230	3,726,619	-84,611	2.5178	3.8858	+1.3679
GEORGIA	2,138,970	1,635,482	-503,488	1.4130	1.7053	+0.2922
HAWAII	737,430	752,666	+15,236	0.4871	0.7848	+0.2976
IDAHO	551,310	437,066	-114,244	0.3642	0.4557	+0.0915
ILLINOIS	8,788,530	5,365,808	-3,422,722	5.8060	5.5950	-0.2110
INDIANA	4,091,820	3,164,264	-927,556	2.7032	3.2994	+0.5962
IOWA	1,283,100	1,035,872	-247,228	0.8476	1.0801	+0.2324
KANSAS	2,514,030	679,048	-1,834,982	1.6608	0.7080	-0.9528
KENTUCKY	2,570,430	1,283,045	-1,287,385	1.6981	1.3378	-0.3602
LOUISIANA	1,806,210	707,105	-1,099,105	1.1932	0.7373	-0.4559
MAINE	809,340	962,282	+152,942	0.5346	1.0033	+0.4687
MARYLAND	5,133,810	2,912,881	-2,220,929	3.3916	3.0373	-0.3542
MASSACHUSETTS	4,176,420	3,400,433	-775,987	2.7591	3.5457	+0.7865
MICHIGAN	11,422,410	5,133,255	-6,289,155	7.5461	5.3525	-2.1935
MINNESOTA	1,873,890	1,610,440	-263,450	1.2379	1.6792	+0.4412
MISSISSIPPI	695,130	750,325	+55,195	0.4592	0.7823	+0.3231
MISSOURI	3,240,180	2,590,160	-650,020	2.1406	2.7008	+0.5602
MONTANA	174,840	126,902	-47,938	0.1155	0.1323	+0.0168
NEBRASKA	1,300,020	409,771	-890,249	0.8588	0.4272	-0.4315
NEVADA	294,690	265,232	-29,458	0.1946	0.2765	+0.0818
NEW HAMPSHIRE	1,040,580	1,041,471	+891	0.6874	1.0859	+0.3985
NEW JERSEY	6,897,720	3,252,921	-3,644,799	4.5569	3.3919	-1.1650
NEW MEXICO	218,550	148,310	-70,240	0.1443	0.1546	+0.0102
NEW YORK	21,575,820	14,514,325	-7,061,495	14.2539	15.1344	+0.8805
NORTH CAROLINA	2,085,390	1,213,386	-872,004	1.3776	1.2652	-0.1124
NORTH DAKOTA	265,080	73,300	-191,780	0.1751	0.0764	-0.0986
OHIO	10,958,520	7,192,173	-3,766,347	7.2396	7.4994	+0.2597
OKLAHOMA	2,089,620	516,837	-1,572,783	1.3804	0.5389	-0.8415
OREGON	1,522,800	1,382,726	-140,074	1.0060	1.4418	+0.4357
PENNSYLVANIA	7,688,730	3,806,422	-3,882,308	5.0795	3.9690	-1.1104
RHODE ISLAND	628,860	722,882	+94,022	0.4154	0.7537	+0.3383
SOUTH CAROLINA	1,376,160	957,225	-418,935	0.9091	0.9981	+0.0889
SOUTH DAKOTA	105,750	137,654	+31,904	0.0698	0.1435	+0.0736
TENNESSEE	1,701,870	1,279,448	-422,422	1.1243	1.3341	+0.2097
TEXAS	4,541,610	2,814,460	-1,727,150	3.0003	2.9347	-0.0656
UTAH	410,310	270,375	-139,935	0.2710	0.2819	+0.0108
VERMONT	284,820	388,850	+104,030	0.1881	0.4054	+0.2172
VIRGINIA	2,655,030	1,583,252	-1,071,778	1.7540	1.6508	-0.1031
WASHINGTON	2,587,350	1,999,294	-588,056	1.7093	2.0847	+0.3754
WEST VIRGINIA	3,326,190	2,184,400	-1,141,790	2.1974	2.2777	+0.0803
WISCONSIN	2,879,220	1,976,821	-902,399	1.9021	2.0612	+0.1591
WYOMING	117,030	67,338	-49,692	0.0773	0.0702	-0.0070
AMERICAN SAMOA	71,910	59,940	-11,970	0.0475	0.0625	+0.0149
GUAM	131,130	94,204	-36,926	0.0866	0.0982	+0.0115
PUERTO RICO	848,820	898,507	+49,687	0.5607	0.9368	+0.3761
PAC. TR. TERR.	273,540	150,217	-123,323	0.1807	0.1566	-0.0240
VIRGIN ISLANDS	62,040	45,805	-16,235	0.0409	0.0477	+0.0067
U.S. TOTALS	151,367,730	95,902,490	-55,465,240	100.0000	100.0000	+0.0000

A16.4

FEBRUARY 10, 1977
TABLE 5

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS FOR CONSTRUCTION OF TREATMENT PLANTS
THOUSANDS OF 1976 DOLLARS
CATEGORIES I AND II

A 16.5

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE
ALABAMA	393,390	418,737	+25,347	0.9822	1.2231	+0.2409
ALASKA	329,940	135,213	-194,727	0.8237	0.3949	-0.4287
ARIZONA	235,470	222,047	-13,423	0.5879	0.6486	+0.0607
ARKANSAS	466,710	285,783	-180,927	1.1652	0.8347	-0.3304
CALIFORNIA	4,166,550	3,372,766	-793,784	10.4030	9.8519	-0.5510
COLORADO	282,000	390,719	+108,719	0.7041	1.1413	+0.4372
CONNECTICUT	373,650	193,072	-180,578	0.9329	0.5639	-0.3689
DELAWARE	139,590	95,498	-44,092	0.3485	0.2789	-0.0695
DIST. OF COLUM.	94,470	12,486	-81,984	0.2358	0.0364	-0.1993
FLORIDA	1,435,380	1,495,300	+59,920	3.5838	4.3678	+0.7840
GEORGIA	988,410	706,089	-282,321	2.4678	2.0625	-0.4052
HAWAII	324,300	320,894	-3,406	0.8097	0.9373	+0.1276
IDAHO	164,970	178,889	+13,919	0.4118	0.5225	+0.1107
ILLINOIS	2,748,090	1,826,519	-921,571	6.8614	5.3353	-1.5260
INDIANA	772,680	833,395	+60,715	1.9292	2.4343	+0.5051
IOWA	437,100	647,077	+209,977	1.0913	1.8901	+0.7988
KANSAS	355,320	296,992	-58,328	0.8871	0.8675	-0.0195
KENTUCKY	414,540	474,097	+59,557	1.0350	1.3848	+0.3498
LOUISIANA	434,280	390,707	-43,573	1.0843	1.1412	+0.0569
MAINE	188,940	135,945	-52,995	0.4717	0.3970	-0.0745
MARYLAND	2,079,750	1,209,406	-870,344	5.1927	3.5327	-1.6599
MASSACHUSETTS	1,116,720	992,722	-123,998	2.7882	2.8997	+0.1115
MICHIGAN	992,640	930,377	-62,263	2.4784	2.7176	+0.2392
MINNESOTA	668,340	874,630	+206,290	1.6687	2.5548	+0.8861
MISSISSIPPI	334,170	435,874	+101,704	0.8343	1.2732	+0.4389
MISSOURI	652,830	666,721	+13,891	1.6299	1.9475	+0.3176
MONTANA	77,550	58,971	-18,579	0.1936	0.1722	-0.0213
NEBRASKA	228,420	187,206	-41,214	0.5703	0.5468	-0.0234
NEVADA	186,120	170,032	-16,088	0.4647	0.4966	+0.0319
NEW HAMPSHIRE	310,200	248,084	-62,116	0.7745	0.7246	-0.0498
NEW JERSEY	2,394,180	1,518,456	-875,724	5.9778	4.4354	-1.5423
NEW MEXICO	83,190	99,133	+15,943	0.2077	0.2895	+0.0818
NEW YORK	3,746,370	3,772,935	+26,565	9.3539	11.0208	+1.6669
NORTH CAROLINA	933,420	594,967	-338,453	2.3305	1.7379	-0.5925
NORTH DAKOTA	71,910	39,657	-32,253	0.1795	0.1158	-0.0636
OHIO	2,137,560	2,091,191	-46,369	5.3370	6.1084	+0.7714
OKLAHOMA	572,460	287,994	-284,466	1.4293	0.8412	-0.5880
OREGON	207,270	407,970	+200,700	0.5175	1.1916	+0.6741
PENNSYLVANIA	1,419,870	1,515,793	+95,923	3.5451	4.4276	+0.8825
RHODE ISLAND	111,390	136,248	+24,858	0.2781	0.3979	+0.1198
SOUTH CAROLINA	532,980	407,679	-125,301	1.3307	1.1908	-0.1398
SOUTH DAKOTA	91,650	110,490	+18,840	0.2288	0.3227	+0.0939
TENNESSEE	571,050	483,308	-87,742	1.4258	1.4117	-0.0140
TEXAS	2,292,660	1,383,642	-909,018	5.7243	4.0416	-1.6826
UTAH	274,950	167,997	-106,953	0.6864	0.4907	-0.1956
VERMONT	128,310	113,597	-14,713	0.3203	0.3318	+0.0115
VIRGINIA	960,210	710,418	-249,792	2.3974	2.0751	-0.3222
WASHINGTON	477,990	645,860	+167,870	1.1934	1.8865	+0.6931
WEST VIRGINIA	341,220	347,579	+6,359	0.8519	1.0152	+0.1633
WISCONSIN	757,170	580,617	-176,553	1.8905	1.6960	-0.1944
WYOMING	56,400	60,093	+3,693	0.1408	0.1755	+0.0347
AMERICAN SAMOA	7,050	28,259	+21,209	0.0176	0.0825	+0.0649
GUAM	63,450	23,108	-40,342	0.1584	0.0674	-0.0909
PUERTO RICO	255,210	371,653	+116,443	0.6372	1.0856	+0.4484
PAC. TR. TERR.	152,280	110,970	-41,310	0.3802	0.3241	-0.0560
VIRGIN ISLANDS	18,330	18,588	+258	0.0457	0.0542	+0.0085
U.S. TOTALS	40,051,050	34,234,450	-5,816,600	100.0000	100.0000	+0.0000

FEBRUARY 1[illegible], 1977
TABLE 6

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS FOR CONSTRUCTION OF PUBLICLY-OWNED WASTEWATER TREATMENT FACILITIES

THOUSANDS OF 1976 DOLLARS
CATEGORIES I, II AND IVB

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE
ALABAMA	665,520	590,823	-74,697	1.0188	1.1327	+0.1139
ALASKA	449,790	253,801	-195,989	0.6885	0.4866	-0.2018
ARIZONA	375,060	353,265	-21,795	0.5741	0.6773	+0.1032
ARKANSAS	820,620	341,833	-478,787	1.2562	0.6553	-0.6008
CALIFORNIA	5,786,640	4,220,309	-1,566,331	8.8585	8.0914	-0.7670
COLORADO	525,930	427,839	-98,091	0.8051	0.8202	+0.0151
CONNECTICUT	673,980	376,756	-297,224	1.0317	0.7223	-0.3093
DELAWARE	280,590	192,355	-88,235	0.4295	0.3687	-0.0607
DIST. OF COLUM.	97,290	19,753	-77,537	0.1489	0.0378	-0.1110
FLORIDA	2,642,340	2,484,636	-157,704	4.0450	4.7637	+0.7187
GEORGIA	1,438,200	1,081,067	-357,133	2.2016	2.0726	-0.1289
HAWAII	618,990	623,976	+4,986	0.9475	1.1963	+0.2488
IDAHO	304,560	317,190	+12,630	0.4662	0.6081	+0.1419
ILLINOIS	3,303,630	2,285,556	-1,018,074	5.0574	4.3820	-0.6753
INDIANA	1,180,170	1,213,627	+33,457	1.8066	2.3268	+0.5202
IOWA	750,120	795,990	+45,870	1.1483	1.5261	+0.3778
KANSAS	738,840	459,347	-279,493	1.1310	0.8806	-0.2503
KENTUCKY	915,090	859,305	-55,785	1.4008	1.6475	+0.2467
LOUISIANA	703,590	497,785	-205,805	1.0771	0.9543	-0.1227
MAINE	384,930	278,388	-106,542	0.5892	0.5337	-0.0554
MARYLAND	3,276,840	1,654,146	-1,622,694	5.0164	3.1714	-1.8449
MASSACHUSETTS	1,868,250	1,625,728	-242,522	2.8600	3.1169	+0.2569
MICHIGAN	2,358,930	1,903,842	-455,088	3.6112	3.6501	+0.0389
MINNESOTA	996,870	1,181,731	+184,861	1.5260	2.2656	+0.7396
MISSISSIPPI	506,190	585,512	+79,322	0.7749	1.1225	+0.3476
MISSOURI	1,188,630	1,119,255	-69,375	1.8196	2.1459	+0.3263
MONTANA	126,900	101,373	-25,527	0.1942	0.1943	+0.0001
NEBRASKA	320,070	244,299	-75,771	0.4899	0.4683	-0.0215
NEVADA	249,570	221,715	-27,855	0.3820	0.4250	+0.0430
NEW HAMPSHIRE	541,440	506,808	-34,632	0.8288	0.9716	+0.1428
NEW JERSEY	3,668,820	2,097,511	-1,571,309	5.6164	4.0214	-1.5949
NEW MEXICO	136,770	119,992	-16,778	0.2093	0.2300	+0.0207
NEW YORK	6,490,230	5,928,637	-561,593	9.9356	11.3667	+1.4311
NORTH CAROLINA	1,472,040	1,007,924	-464,116	2.2534	1.9324	-0.3209
NORTH DAKOTA	104,340	53,320	-51,020	0.1597	0.1022	-0.0574
OHIO	3,337,470	3,464,454	+126,984	5.1092	6.6422	+1.5330
OKLAHOMA	933,420	404,846	-528,574	1.4289	0.7761	-0.6527
OREGON	434,200	778,313	+344,033	0.6648	1.4922	+0.0274
PENNSYLVANIA	2,296,890	2,001,200	-295,690	3.5162	3.8368	+0.3206
RHODE ISLAND	263,670	218,990	-44,680	0.4036	0.4198	+0.0162
SOUTH CAROLINA	1,026,480	749,950	-276,530	1.5714	1.4378	-0.1335
SOUTH DAKOTA	101,520	128,663	+27,143	0.1554	0.2466	+0.0912
TENNESSEE	954,570	735,783	-218,787	1.4613	1.4106	-0.0506
TEXAS	2,855,250	2,064,261	-790,989	4.3710	3.9577	-0.4132
UTAH	307,380	193,154	-114,226	0.4705	0.3703	-0.1001
VERMONT	176,250	141,468	-34,782	0.2698	0.2712	+0.0014
VIRGINIA	1,591,890	1,112,681	-479,209	2.4369	2.1333	-0.3035
WASHINGTON	951,750	1,020,757	+69,007	1.4570	1.9570	+0.5000
WEST VIRGINIA	1,861,200	1,123,777	-737,423	2.8492	2.1545	-0.6946
WISCONSIN	1,323,990	1,061,783	-262,207	2.0268	2.0357	+0.0089
WYOMING	77,550	64,789	-12,761	0.1187	0.1242	+0.0055
AMERICAN SAMOA	32,430	50,338	+17,908	0.0496	0.0965	+0.0469
GUAM	84,600	40,126	-44,474	0.1295	0.0769	-0.0525
PUERTO RICO	518,880	640,553	+121,673	0.7943	1.2281	+0.4338
PAC. TR. TERR.	187,530	114,499	-73,031	0.2870	0.2195	-0.0674
VIRGIN ISLANDS	43,710	21,722	-21,988	0.0669	0.0416	-0.0252
U.S. TOTALS	65,322,480	52,157,501	-13,164,979	100.0000	100.0000	+0.0000

A 16.6

FEBRUARY 10, 1977
TABLE 7

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS
FOR IMPROVEMENT OF TREATMENT PLANTS TO ACHIEVE SECONDARY LEVEL
THOUSANDS OF 1976 DOLLARS
CATEGORY I

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE
ALABAMA	160,740	164,311	+3,571	0.9026	1.2683	+0.3656
ALASKA	329,940	110,213	-219,727	1.8528	0.8507	-1.0021
ARIZONA	224,190	216,244	-7,946	1.2589	1.6691	+0.4101
ARKANSAS	0	78,115	+78,115	0.0000	0.6029	+0.6029
CALIFORNIA	2,415,330	2,187,873	-227,457	13.5640	16.8881	+3.3240
COLORADO	109,980	90,483	-19,497	0.6176	0.6984	+0.0808
CONNECTICUT	241,110	129,102	-112,008	1.3540	0.9965	-0.3574
DELAWARE	91,650	720	-90,930	0.5146	0.0055	-0.5091
DIST. OF COLUM.	0	0	+0	0.0000	0.0000	+0.0000
FLORIDA	798,060	286,261	-511,799	4.4817	2.2096	-2.2721
GEORGIA	282,000	98,629	-183,371	1.5836	0.7613	-0.8223
HAWAII	286,230	320,894	+34,664	1.6074	2.4769	+0.8695
IDAHO	64,860	131,339	+66,479	0.3642	1.0137	+0.6495
ILLINOIS	442,740	51,034	-391,706	2.4863	0.3939	-2.0924
INDIANA	282,000	80,097	-201,903	1.5836	0.6182	-0.9653
IOWA	186,120	236,725	+50,605	1.0452	1.8272	+0.7820
KANSAS	260,850	271,671	+10,821	1.4648	2.0970	+0.6321
KENTUCKY	71,910	46,746	-25,164	0.4038	0.3608	-0.0429
LOUISIANA	425,820	314,990	-110,830	2.3913	2.4313	+0.0400
MAINE	183,300	119,586	-63,714	1.0293	0.9230	-0.1062
MARYLAND	14,100	7,588	-6,512	0.0791	0.0585	-0.0206
MASSACHUSETTS	827,670	705,498	-122,172	4.6480	5.4457	+0.7976
MICHIGAN	149,460	29,100	-120,360	0.8393	0.2246	-0.6147
MINNESOTA	83,190	0	-83,190	0.4671	0.0000	-0.4671
MISSISSIPPI	49,350	65,291	+15,941	0.2771	0.5039	+0.2268
MISSOURI	564,000	659,640	+95,640	3.1673	5.0917	+1.9244
MONTANA	54,990	43,395	-11,595	0.3088	0.3349	+0.0261
NEBRASKA	203,040	163,032	-40,008	1.1402	1.2584	+0.1181
NEVADA	42,300	51,348	+9,048	0.2375	0.3963	+0.1588
NEW HAMPSHIRE	176,250	169,809	-6,441	0.9897	1.3107	+0.3209
NEW JERSEY	1,589,070	803,824	-785,246	8.9238	6.2046	-2.7192
NEW MEXICO	73,320	66,159	-7,161	0.4117	0.5106	+0.0989
NEW YORK	2,344,830	2,531,814	+186,984	13.1680	19.5429	+6.3748
NORTH CAROLINA	297,510	72,882	-224,628	1.6707	0.5625	-1.1081
NORTH DAKOTA	71,910	39,452	-32,458	0.4038	0.3045	-0.0993
OHIO	301,740	28,829	-272,911	1.6945	0.2225	-1.4719
OKLAHOMA	0	8,854	+8,854	0.0000	0.0683	+0.0683
OREGON	205,860	93,342	-112,518	1.1560	0.7204	-0.4355
PENNSYLVANIA	1,046,220	258,124	-788,096	5.8753	1.9924	-3.8829
RHODE ISLAND	63,450	57,294	-6,156	0.3563	0.4422	+0.0859
SOUTH CAROLINA	469,530	180,832	-288,698	2.6367	1.3958	-1.2409
SOUTH DAKOTA	46,530	23,521	-23,009	0.2612	0.1815	-0.0797
TENNESSEE	157,920	89,897	-68,023	0.8868	0.6939	-0.1929
TEXAS	12,690	8,462	-4,228	0.0712	0.0653	-0.0059
UTAH	274,950	61	-274,889	1.5440	0.0004	-1.5435
VERMONT	43,710	45,636	+1,926	0.2454	0.3522	+0.1067
VIRGINIA	513,240	403,053	-110,187	2.8822	3.1111	+0.2288
WASHINGTON	399,030	406,843	+7,813	2.2408	3.1403	+0.8995
WEST VIRGINIA	128,310	260,791	+132,481	0.7205	2.0130	+1.2924
WISCONSIN	231,240	165,836	-65,404	1.2985	1.2800	-0.0185
WYOMING	56,400	60,093	+3,693	0.3167	0.4638	+0.1471
AMERICAN SAMOA	7,050	28,259	+21,209	0.0395	0.2181	+0.1785
GUAM	50,760	23,108	-27,652	0.2850	0.1783	-0.1066
PUERTO RICO	255,210	352,518	+97,308	1.4331	2.7210	+1.2878
PAC. TR. TERR.	126,900	110,970	-15,930	0.7126	0.8565	+0.1439
VIRGIN ISLANDS	18,330	4,913	-13,417	0.1029	0.0379	-0.0650
U.S. TOTALS	17,806,890	12,955,101	-4,851,789	100.0000	100.0000	+0.0000

A 16.7

FEBRUARY 10, 1977
TABLE 8

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS TO ACHIEVE MORE STRINGENT TREATEMENT LEVELS

THOUSANDS OF 1976 DOLLARS
CATEGORY II

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE
ALABAMA	232,650	254,426	+21,776	1.0458	1.1956	+0.1498
ALASKA	0	25,000	+25,000	0.0000	0.1174	+0.1174
ARIZONA	11,280	5,803	-5,477	0.0507	0.0273	-0.0234
ARKANSAS	466,710	207,668	-259,042	2.0981	0.9759	-1.1221
CALIFORNIA	1,751,220	1,184,893	-566,327	7.8727	5.5682	-2.3044
COLORADO	172,020	300,236	+128,216	0.7733	1.4109	+0.6376
CONNECTICUT	132,540	63,970	-68,570	0.5958	0.3006	-0.2952
DELAWARE	47,940	94,778	+46,838	0.2155	0.4453	+0.2298
DIST. OF COLUM.	94,470	12,486	-81,984	0.4246	0.0586	-0.3659
FLORIDA	637,320	1,209,039	+571,719	2.8651	5.6817	+2.8166
GEORGIA	706,410	607,460	-98,950	3.1757	2.8546	-0.3210
HAWAII	38,070	0	-38,070	0.1711	0.0000	-0.1711
IDAHO	100,110	47,550	-52,560	0.4500	0.2234	-0.2265
ILLINOIS	2,305,350	1,775,485	-529,865	10.3638	8.3436	-2.0201
INDIANA	490,680	753,298	+262,618	2.2058	3.5400	+1.3342
IOWA	250,980	410,352	+159,372	1.1282	1.9283	+0.8001
KANSAS	94,470	25,321	-69,149	0.4246	0.1189	-0.3056
KENTUCKY	342,630	427,351	+84,721	1.5403	2.0082	+0.4679
LOUISIANA	8,460	75,717	+67,257	0.0380	0.3558	+0.3178
MAINE	5,640	16,359	+10,719	0.0253	0.0768	+0.0515
MARYLAND	2,065,650	1,201,818	-863,832	9.2862	5.6478	-3.6383
MASSACHUSETTS	289,050	287,224	-1,826	1.2994	1.3497	+0.0503
MICHIGAN	843,180	901,277	+58,097	3.7905	4.2354	+0.4449
MINNESOTA	585,150	874,630	+289,480	2.6305	4.1102	+1.4797
MISSISSIPPI	284,820	370,583	+85,763	1.2804	1.7415	+0.4611
MISSOURI	88,830	7,081	-81,749	0.3993	0.0332	-0.3660
MONTANA	22,560	15,576	-6,984	0.1014	0.0731	-0.0282
NEBRASKA	25,380	24,174	-1,206	0.1140	0.1136	-0.0005
NEVADA	143,820	118,684	-25,136	0.6465	0.5577	-0.0888
NEW HAMPSHIRE	133,950	78,275	-55,675	0.6021	0.3678	-0.2342
NEW JERSEY	805,110	714,632	-90,478	3.6194	3.3583	-0.2610
NEW MEXICO	9,870	32,974	+23,104	0.0443	0.1549	+0.1106
NEW YORK	1,401,540	1,241,121	-160,419	6.3007	5.8325	-0.4681
NORTH CAROLINA	635,910	522,085	-113,825	2.8587	2.4534	-0.4052
NORTH DAKOTA	0	205	+205	0.0000	0.0009	+0.0009
OHIO	1,835,820	2,062,362	+226,542	8.2530	9.6918	+1.4388
OKLAHOMA	572,460	279,140	-293,320	2.5735	1.3117	-1.2617
OREGON	1,410	314,628	+313,218	0.0063	1.4785	+1.4722
PENNSYLVANIA	373,650	1,257,669	+884,019	1.6797	5.9102	+4.2305
RHODE ISLAND	47,940	78,954	+31,014	0.2155	0.3710	+0.1555
SOUTH CAROLINA	63,450	226,847	+163,397	0.2852	1.0660	+0.7808
SOUTH DAKOTA	45,120	86,969	+41,849	0.2028	0.4086	+0.2058
TENNESSEE	413,130	393,411	-19,719	1.8572	1.8487	-0.0084
TEXAS	2,279,970	1,375,180	-904,790	10.2497	6.4624	-3.7871
UTAH	0	167,936	+167,936	0.0000	0.7891	+0.7891
VERMONT	84,600	67,961	-16,639	0.3803	0.3193	-0.0609
VIRGINIA	446,970	307,365	-139,605	2.0093	1.4444	-0.5648
WASHINGTON	78,960	239,017	+160,057	0.3549	1.1232	+0.7683
WEST VIRGINIA	212,910	86,788	-126,122	0.9571	0.4078	-0.5492
WISCONSIN	525,930	414,781	-111,149	2.3643	1.9492	-0.4150
WYOMING	0	0	+0	0.0000	0.0000	+0.0000
AMERICAN SAMOA	0	0	+0	0.0000	0.0000	+0.0000
GUAM	12,690	0	-12,690	0.0570	0.0000	-0.0569
PUERTO RICO	0	19,135	+19,135	0.0000	0.0899	+0.0899
PAC. TR. TERR.	25,380	0	-25,380	0.1140	0.0000	-0.1139
VIRGIN ISLANDS	0	13,675	+13,675	0.0000	0.0642	+0.0642
U.S. TOTALS	22,244,160	21,279,349	-964,811	100.0000	100.0000	+0.0000

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FEBRUARY 10, 1977
TABLE 9

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS FOR CORRECTION OF INFILTRATION/INFLOW CONDITIONS
THOUSANDS OF 1976 DOLLARS
CATEGORY III A

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE
ALABAMA	143,820	65,989	-77,831	1.9384	2.1871	+0.2487
ALASKA	5,640	1,642	-3,998	0.0760	0.0544	-0.0215
ARIZONA	1,410	1,347	-63	0.0190	0.0446	+0.0256
ARKANSAS	95,880	21,219	-74,661	1.2922	0.7032	-0.5889
CALIFORNIA	483,630	90,510	-393,120	6.5184	2.9998	-3.5185
COLORADO	40,890	20,414	-20,476	0.5511	0.6765	+0.1254
CONNECTICUT	29,610	31,273	+1,663	0.3990	1.0365	+0.6375
DELAWARE	141,000	3,803	-137,197	1.9004	0.1260	-1.7743
DIST. OF COLUM.	56,400	58,000	+1,600	0.7601	1.9223	+1.1622
FLORIDA	54,990	95,340	+40,350	0.7411	3.1599	+2.4188
GEORGIA	16,920	41,586	+24,666	0.2280	1.3783	+1.1503
HAWAII	0	117	+117	0.0000	0.0038	+0.0038
IDAHO	31,020	16,531	-14,489	0.4180	0.5478	+0.1298
ILLINOIS	248,160	103,164	-144,996	3.3447	3.4192	+0.0745
INDIANA	212,910	201,271	-11,639	2.8696	6.6709	+3.8013
IOWA	173,430	56,157	-117,273	2.3375	1.8612	-0.4762
KANSAS	755,760	33,749	-722,011	10.1862	1.1185	-9.0676
KENTUCKY	74,730	64,579	-10,151	1.0072	2.1404	+1.1332
LOUISIANA	496,320	109,968	-386,352	6.6894	3.6448	-3.0445
MAINE	1,410	14,486	+13,076	0.0190	0.4801	+0.4611
MARYLAND	71,910	21,607	-50,303	0.9692	0.7161	-0.2530
MASSACHUSETTS	46,530	16,865	-29,665	0.6271	0.5589	-0.0681
MICHIGAN	135,360	73,019	-62,341	1.8244	2.4201	+0.5957
MINNESOTA	73,320	24,705	-48,615	0.9882	0.8188	-0.1693
MISSISSIPPI	63,450	109,928	+46,478	0.8551	3.6434	+2.7883
MISSOURI	308,790	19,187	-289,603	4.1619	0.6359	-3.5259
MONTANA	7,050	6,481	-569	0.0950	0.2147	+0.1197
NEBRASKA	53,580	4,934	-48,646	0.7221	0.1635	-0.5585
NEVADA	1,410	2,207	+797	0.0190	0.0731	+0.0541
NEW HAMPSHIRE	32,430	6,711	-25,719	0.4370	0.2224	-0.2145
NEW JERSEY	280,590	125,117	-155,473	3.7818	4.1469	+0.3651
NEW MEXICO	4,230	4,249	+19	0.0570	0.1408	+0.0838
NEW YORK	717,690	148,269	-569,421	9.6731	4.9142	-4.7588
NORTH CAROLINA	73,320	57,695	-15,625	0.9882	1.9122	+0.9240
NORTH DAKOTA	1,410	284	-1,126	0.0190	0.0094	-0.0095
OHIO	898,170	629,831	-268,339	12.1056	20.8753	+8.7697
OKLAHOMA	77,550	32,968	-44,582	1.0452	1.0926	+0.0474
OREGON	78,960	116,020	+37,060	1.0642	3.8454	+2.7812
PENNSYLVANIA	128,310	33,253	-95,057	1.7293	1.1021	-0.6271
RHODE ISLAND	4,230	8,512	+4,282	0.0570	0.2821	+0.2251
SOUTH CAROLINA	29,610	38,408	+8,798	0.3990	1.2729	+0.8739
SOUTH DAKOTA	1,410	4,567	+2,157	0.0190	0.1513	+0.1323
TENNESSEE	63,450	52,520	-10,930	0.8551	1.7407	+0.8856
TEXAS	291,870	178,791	-113,079	3.9338	5.9259	+1.9921
UTAH	19,740	42,221	+22,481	0.2660	1.3993	+1.1333
VERMONT	12,690	1,655	-11,035	0.1710	0.0548	-0.1161
VIRGINIA	408,900	29,666	-379,234	5.5112	0.9832	-4.5279
WASHINGTON	128,310	107,853	-20,457	1.7293	3.5747	+1.8454
WEST VIRGINIA	204,450	7,392	-197,058	2.7556	0.2449	-2.5105
WISCONSIN	111,390	72,527	-38,863	1.5013	2.4038	+0.9025
WYOMING	0	1,875	+1,875	0.0000	0.0621	+0.0621
AMERICAN SAMOA	0	0	+0	0.0000	0.0000	+0.0000
GUAM	2,820	465	-2,355	0.0380	0.0154	-0.0225
PUERTO RICO	19,740	6,088	-13,652	0.2660	0.2017	-0.0642
PAC. TR. TERR.	1,410	0	-1,410	0.0190	0.0000	-0.0189
VIRGIN ISLANDS	1,410	87	-1,323	0.0190	0.0028	-0.0161
U.S. TOTALS	7,419,420	3,017,102	-4,402,318	100.0000	100.0000	+0.0000

A-16.9

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TABLE 10

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS FOR CORRECTION OF MAJOR REHABILITATION AND REPLACEMENT
THOUSANDS OF 1976 DOLLARS
CATEGORY III B

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE
ALABAMA	15,510	2,570	-12,940	0.1513	0.0468	-0.1044
ALASKA	1,410	67	-1,343	0.0137	0.0012	-0.0124
ARIZONA	1,410	0	-1,410	0.0137	0.0000	-0.0136
ARKANSAS	0	0	+0	0.0000	0.0000	+0.0000
CALIFORNIA	66,270	9,343	-56,927	0.6464	0.1702	-0.4761
COLORADO	33,840	237,621	+203,781	0.3301	4.3309	+4.0008
CONNECTICUT	53,580	10,034	-43,546	0.5226	0.1828	-0.3397
DELAWARE	94,470	1,468	-93,002	0.9215	0.0267	-0.8947
DIST. OF COLUM.	304,560	0	-304,560	2.9711	0.0000	-2.9710
FLORIDA	62,040	6,500	-55,540	0.6052	0.1184	-0.4867
GEORGIA	2,820	481	-2,339	0.0275	0.0087	-0.0187
HAWAII	0	0	+0	0.0000	0.0000	+0.0000
IDAHO	22,560	724	-21,836	0.2200	0.0131	-0.2068
ILLINOIS	84,600	58,081	-26,519	0.8253	1.0585	+0.2332
INDIANA	260,850	57,545	-203,305	2.5447	1.0488	-1.4958
IOWA	12,690	0	-12,690	0.1237	0.0000	-0.1236
KANSAS	414,540	819	-413,721	4.0440	0.0149	-4.0290
KENTUCKY	88,830	0	-88,830	0.8665	0.0000	-0.8664
LOUISIANA	136,770	2,257	-134,513	1.3342	0.0411	-1.2930
MAINE	2,820	3,722	+902	0.0275	0.0678	+0.0403
MARYLAND	1,596,120	1,128,920	-467,200	15.5708	20.5761	+5.0053
MASSACHUSETTS	35,250	46,715	+11,465	0.3438	0.8514	+0.5076
MICHIGAN	642,960	578,444	-64,516	6.2723	10.5429	+4.2706
MINNESOTA	19,740	10,205	-9,535	0.1925	0.1859	-0.0066
MISSISSIPPI	43,710	2,100	-41,610	0.4264	0.0382	-0.3881
MISSOURI	0	0	+0	0.0000	0.0000	+0.0000
MONTANA	1,410	1,165	-245	0.0137	0.0212	+0.0075
NEBRASKA	1,410	0	-1,410	0.0137	0.0000	-0.0136
NEVADA	0	22	+22	0.0000	0.0003	+0.0003
NEW HAMPSHIRE	0	3,988	+3,988	0.0000	0.0726	+0.0726
NEW JERSEY	245,340	27,842	-217,498	2.3933	0.5074	-1.8858
NEW MEXICO	1,410	784	-626	0.0137	0.0142	+0.0005
NEW YORK	3,300,810	2,525,667	-775,143	32.2008	46.0338	+13.8330
NORTH CAROLINA	0	0	+0	0.0000	0.0000	+0.0000
NORTH DAKOTA	0	1,358	+1,358	0.0000	0.0247	+0.0247
OHIO	160,740	357,393	+196,653	1.5680	6.5139	+4.9459
OKLAHOMA	776,910	12,837	-764,073	7.5790	0.2339	-7.3450
OREGON	456,840	34,834	-422,006	4.4566	0.6348	-3.8217
PENNSYLVANIA	67,680	0	-67,680	0.6602	0.0000	-0.6601
RHODE ISLAND	0	200	+200	0.0000	0.0036	+0.0036
SOUTH CAROLINA	0	0	+0	0.0000	0.0000	+0.0000
SOUTH DAKOTA	0	151	+151	0.0000	0.0027	+0.0027
TENNESSEE	54,990	0	-54,990	0.5364	0.0000	-0.5363
TEXAS	301,740	61,818	-239,922	2.9436	1.1267	-1.8168
UTAH	2,820	0	-2,820	0.0275	0.0000	-0.0274
VERMONT	0	5,855	+5,855	0.0000	0.1067	+0.1067
VIRGINIA	45,120	1,080	-44,040	0.4401	0.0196	-0.4204
WASHINGTON	640,140	136,647	-503,493	6.2448	2.4905	-3.7542
WEST VIRGINIA	7,050	69	-6,981	0.0687	0.0012	-0.0674
WISCONSIN	188,940	143,512	-45,428	1.8431	2.6156	+0.7725
WYOMING	0	0	+0	0.0000	0.0000	+0.0000
AMERICAN SAMOA	0	2,000	+2,000	0.0000	0.0364	+0.0364
GUAM	0	0	+0	0.0000	0.0000	+0.0000
PUERTO RICO	0	11,704	+11,704	0.0000	0.2133	+0.2133
PAC. TR. TERR.	0	0	+0	0.0000	0.0000	+0.0000
VIRGIN ISLANDS	0	0	+0	0.0000	0.0000	+0.0000
U.S. TOTALS	10,250,700	5,486,542	-4,764,158	100.0000	100.0000	+0.0000

A-16.10

FEBRUARY 10, 1977
TABLE 11

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS
FOR CONSTRUCTION OF ELIGIBLE NEW COLLECTORS AND APPURTENANCES

THOUSANDS OF 1976 DOLLARS
CATEGORY IV A

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE
ALABAMA	270,720	206,354	-64,366	1.1011	1.2153	+0.1141
ALASKA	98,700	68,829	-29,871	0.4015	0.4053	+0.0038
ARIZONA	325,710	103,956	-221,754	1.3248	0.6122	-0.7125
ARKANSAS	346,860	107,959	-238,901	1.4108	0.6356	-0.7752
CALIFORNIA	1,144,920	838,893	-306,027	4.6570	4.9406	+0.2835
COLORADO	104,340	8,118	-96,222	0.4243	0.0478	-0.3765
CONNECTICUT	438,510	467,916	+29,406	1.7836	2.7557	+0.9721
DELAWARE	91,650	32,564	-59,086	0.3727	0.1917	-0.1810
DIST. OF COLUM.	0	0	+0	0.0000	0.0000	+0.0000
FLORIDA	1,051,860	1,139,643	+87,783	4.2784	6.7118	+2.4333
GEORGIA	282,000	211,122	-70,878	1.1470	1.2433	+0.0963
HAWAII	118,440	128,573	+10,133	0.4817	0.7572	+0.2754
IDAHO	143,820	94,052	-49,768	0.5849	0.5539	-0.0310
ILLINOIS	657,060	333,499	-323,561	2.6726	1.9641	-0.7084
INDIANA	468,120	458,843	-9,277	1.9040	2.7023	+0.7982
IOWA	170,610	92,935	-77,675	0.6939	0.5473	-0.1466
KANSAS	445,560	77,172	-368,388	1.8123	0.4544	-1.3578
KENTUCKY	572,460	226,977	-345,483	2.3285	1.3367	-0.9917
LOUISIANA	469,530	97,095	-372,435	1.9098	0.5718	-1.3380
MAINE	143,820	183,441	+39,621	0.5849	1.0803	+0.4953
MARYLAND	150,870	60,748	-90,122	0.6136	0.3577	-0.2558
MASSACHUSETTS	1,064,550	834,956	-229,594	4.3301	4.9174	+0.5873
MICHIGAN	1,398,720	1,230,494	-168,226	5.6893	7.2469	+1.5575
MINNESOTA	265,080	170,402	-94,678	1.0782	1.0035	-0.0746
MISSISSIPPI	80,370	52,785	-27,585	0.3268	0.3108	-0.0160
MISSOURI	504,780	159,597	-345,183	2.0532	0.9399	-1.1132
MONTANA	29,610	17,883	-11,727	0.1204	0.1053	-0.0151
NEBRASKA	36,660	14,423	-22,237	0.1491	0.0849	-0.0641
NEVADA	43,710	26,624	-17,086	0.1777	0.1567	-0.0209
NEW HAMPSHIRE	259,440	216,004	-43,436	1.0552	1.2721	+0.2168
NEW JERSEY	761,400	397,531	-363,869	3.0970	2.3412	-0.7557
NEW MEXICO	76,140	23,285	-52,855	0.3096	0.1371	-0.1725
NEW YORK	4,011,450	3,248,326	-763,124	16.3168	19.1309	+2.8140
NORTH CAROLINA	540,030	147,767	-392,263	2.1965	0.8702	-1.3263
NORTH DAKOTA	88,830	5,501	-83,329	0.3613	0.0323	-0.3289
OHIO	834,720	974,883	+140,163	3.3952	5.7415	+2.3462
OKLAHOMA	301,740	66,186	-235,554	1.2273	0.3897	-0.8375
OREGON	183,300	243,078	+59,778	0.7455	1.4315	+0.6860
PENNSYLVANIA	1,756,860	951,464	-805,396	7.1461	5.6036	-1.5425
RHODE ISLAND	238,290	230,972	-7,318	0.9692	1.3602	+0.3910
SOUTH CAROLINA	320,070	168,867	-151,203	1.3018	0.9945	-0.3073
SOUTH DAKOTA	2,820	3,095	+275	0.0114	0.0182	+0.0067
TENNESSEE	468,120	307,765	-160,355	1.9040	1.8125	-0.0915
TEXAS	926,370	460,807	-465,563	3.7680	2.7138	-1.0541
UTAH	80,370	35,000	-45,370	0.3268	0.2061	-0.1207
VERMONT	46,530	78,150	+31,620	0.1892	0.4602	+0.2709
VIRGINIA	318,660	194,878	-123,782	1.2961	1.1477	-0.1484
WASHINGTON	421,590	392,501	-29,089	1.7148	2.3116	+0.5967
WEST VIRGINIA	979,950	626,601	-353,349	3.9859	3.6903	-0.2956
WISCONSIN	538,620	421,785	-116,835	2.1908	2.4840	+0.2932
WYOMING	39,480	674	-38,806	0.1605	0.0039	-0.1566
AMERICAN SAMOA	39,480	7,602	-31,878	0.1605	0.0447	-0.1158
GUAM	43,710	31,011	-12,699	0.1777	0.1826	+0.0048
PUERTO RICO	286,230	240,162	-46,068	1.1642	1.4144	+0.2501
PAC. TR. TERR.	84,600	35,718	-48,882	0.3441	0.2103	-0.1337
VIRGIN ISLANDS	16,920	23,996	+7,076	0.0688	0.1413	+0.0724
U.S. TOTALS	24,584,760	16,979,462	-7,605,298	100.0000	100.0000	+0.0000

FEBRUARY 10, 1977
TABLE 12

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS
FOR CONSTRUCTION OF NEW INTERCEPTORS AND APPURTENANCES
THOUSANDS OF 1976 DOLLARS
CATEGORY IV B

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE
ALABAMA	272,130	172,086	-100,044	1.0768	0.9601	-0.1166
ALASKA	119,850	118,588	-1,262	0.4742	0.6616	+0.1874
ARIZONA	139,590	131,218	-8,372	0.5523	0.7321	+0.1798
ARKANSAS	353,910	56,050	-297,860	1.4004	0.3127	-1.0876
CALIFORNIA	1,620,090	847,543	-772,547	6.4107	4.7287	-1.6819
COLORADO	243,930	37,120	-206,810	0.9652	0.2070	-0.7580
CONNECTICUT	300,330	183,684	-116,646	1.1884	1.0248	-0.1635
DELAWARE	141,000	96,857	-44,143	0.5579	0.5403	-0.0174
DIST. OF COLUM.	2,820	7,267	+4,447	0.0111	0.0405	+0.0294
FLORIDA	1,206,960	989,336	-217,624	4.7759	5.5198	+0.7439
GEORGIA	449,790	374,978	-74,812	1.7798	2.0921	+0.3123
HAWAII	294,690	303,082	+8,392	1.1660	1.6910	+0.5250
IDAHO	139,590	138,301	-1,289	0.5523	0.7716	+0.2193
ILLINOIS	555,540	459,037	-96,503	2.1982	2.5611	+0.3629
INDIANA	407,490	380,232	-27,258	1.6124	2.1214	+0.5090
IOWA	313,020	148,913	-164,107	1.2386	0.8308	-0.4077
KANSAS	383,520	162,355	-221,165	1.5176	0.9058	-0.6117
KENTUCKY	500,550	385,208	-115,342	1.9806	2.1492	+0.1686
LOUISIANA	269,310	107,078	-162,232	1.0656	0.5974	-0.4681
MAINE	195,990	142,443	-53,547	0.7755	0.7947	+0.0192
MARYLAND	1,197,090	444,740	-752,350	4.7369	2.4813	-2.2555
MASSACHUSETTS	751,530	633,006	-118,524	2.9738	3.5317	+0.5579
MICHIGAN	1,366,290	973,465	-392,825	5.4064	5.4313	+0.0249
MINNESOTA	328,530	307,101	-21,429	1.3000	1.7134	+0.4134
MISSISSIPPI	172,020	149,638	-22,382	0.6806	0.8348	+0.1542
MISSOURI	535,800	452,534	-83,266	2.1201	2.5248	+0.4047
MONTANA	49,350	42,402	-6,948	0.1952	0.2365	+0.0413
NEBRASKA	91,650	57,093	-34,557	0.3626	0.3185	-0.0440
NEVADA	63,450	51,683	-11,767	0.2510	0.2883	+0.0373
NEW HAMPSHIRE	231,240	258,724	+27,484	0.9150	1.4435	+0.5285
NEW JERSEY	1,274,640	579,055	-695,585	5.0437	3.2307	-1.8129
NEW MEXICO	53,580	20,859	-32,721	0.2120	0.1163	-0.0956
NEW YORK	2,743,860	2,155,702	-588,158	10.8575	12.0275	+1.1700
NORTH CAROLINA	538,620	412,957	-125,663	2.1313	2.3040	+0.1727
NORTH DAKOTA	32,430	13,663	-18,767	0.1283	0.0762	-0.0520
OHIO	1,199,910	1,373,263	+173,353	4.7480	7.6619	+2.9139
OKLAHOMA	360,960	116,852	-244,108	1.4283	0.6519	-0.7763
OREGON	227,010	370,343	+143,333	0.8982	2.0662	+1.1680
PENNSYLVANIA	877,020	485,407	-391,613	3.4704	2.7082	-0.7621
RHODE ISLAND	152,280	82,742	-69,538	0.6025	0.4616	-0.1408
SOUTH CAROLINA	493,500	342,271	-151,229	1.9527	1.9096	-0.0430
SOUTH DAKOTA	9,870	18,173	+8,303	0.0390	0.1013	+0.0623
TENNESSEE	383,520	252,475	-131,045	1.5176	1.4086	-0.1089
TEXAS	562,590	680,619	+118,029	2.2261	3.7974	+1.5713
UTAH	32,430	25,157	-7,273	0.1283	0.1403	+0.0120
VERMONT	47,940	27,871	-20,069	0.1897	0.1554	-0.0341
VIRGINIA	631,680	402,263	-229,417	2.4995	2.2443	-0.2551
WASHINGTON	473,760	374,897	-98,863	1.8746	2.0916	+0.2170
WEST VIRGINIA	1,519,980	776,198	-743,782	6.0146	4.3307	-1.6838
WISCONSIN	566,820	481,166	-85,654	2.2429	2.6846	+0.4417
WYOMING	21,150	4,696	-16,454	0.0836	0.0261	-0.0573
AMERICAN SAMOA	25,380	22,079	-3,301	0.1004	0.1231	+0.0227
GUAM	21,150	17,018	-4,132	0.0836	0.0949	+0.0113
PUERTO RICO	263,670	268,900	+5,230	1.0433	1.5002	+0.4569
PAC. TR. TERR.	35,250	3,529	-31,721	0.1394	0.0196	-0.1197
VIRGIN ISLANDS	25,380	3,134	-22,246	0.1004	0.0174	-0.0829
U.S. TOTALS	25,271,430	17,923,051	-7,348,379	100.0000	100.0000	+0.0000

FEBRUARY 10, 1977
TABLE 13

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS FOR CORRECTION OF COMBINED SEWER OVERFLOWS

THOUSANDS OF 1976 DOLLARS
CATEGORY V

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE
ALABAMA	0	0	+0	0.0000	0.0000	+0.0000
ALASKA	12,690	3,019	-9,671	0.0289	0.0165	-0.0123
ARIZONA	0	0	+0	0.0000	0.0000	+0.0000
ARKANSAS	1,410	46,819	+45,409	0.0032	0.2563	+0.2531
CALIFORNIA	1,271,820	385,115	-886,705	2.9043	2.1088	-0.7954
COLORADO	32,430	3,368	-29,062	0.0740	0.0184	-0.0555
CONNECTICUT	1,040,580	387,317	-653,263	2.3762	2.1208	-0.2552
DELAWARE	160,740	39,733	-121,007	0.3670	0.2175	-0.1494
DIST. OF COLUM.	1,023,660	149,297	-874,363	2.3376	0.8175	-1.5200
FLORIDA	0	500	+500	0.0000	0.0027	+0.0027
GEORGIA	399,030	301,226	-97,804	0.9112	1.6494	+0.7382
HAWAII	0	0	+0	0.0000	0.0000	+0.0000
IDAHO	49,350	8,569	-40,781	0.1126	0.0469	-0.0656
ILLINOIS	4,495,080	2,585,508	-1,909,572	10.2649	14.1579	+3.8930
INDIANA	1,969,770	1,232,978	-736,792	4.4981	6.7516	+2.2535
IOWA	176,250	90,790	-85,460	0.4024	0.4971	+0.0947
KANSAS	159,330	107,961	-51,369	0.3638	0.5911	+0.2273
KENTUCKY	919,320	132,184	-787,136	2.0993	0.7238	-1.3754
LOUISIANA	0	0	+0	0.0000	0.0000	+0.0000
MAINE	276,360	482,245	+205,885	0.6310	2.6407	+2.0097
MARYLAND	38,070	47,460	+9,390	0.0869	0.2598	+0.1729
MASSACHUSETTS	1,161,840	876,169	-285,671	2.6531	4.7977	+2.1446
MICHIGAN	6,886,440	1,347,456	-5,538,984	15.7259	7.3785	-8.3473
MINNESOTA	518,880	223,397	-295,483	1.1849	1.2232	+0.0383
MISSISSIPPI	1,410	0	-1,410	0.0032	0.0000	-0.0031
MISSOURI	1,237,980	1,292,121	+54,141	2.8270	7.0754	+4.2484
MONTANA	9,870	0	-9,870	0.0225	0.0000	-0.0224
NEBRASKA	888,300	146,115	-742,185	2.0285	0.8000	-1.2283
NEVADA	0	14,664	+14,664	0.0000	0.0802	+0.0802
NEW HAMPSHIRE	207,270	307,960	+100,690	0.4733	1.6863	+1.2130
NEW JERSEY	1,941,570	604,920	-1,336,650	4.4337	3.3124	-1.1212
NEW MEXICO	0	0	+0	0.0000	0.0000	+0.0000
NEW YORK	7,055,640	2,663,426	-4,392,214	16.1123	14.5846	-1.5276
NORTH CAROLINA	0	0	+0	0.0000	0.0000	+0.0000
NORTH DAKOTA	70,500	12,837	-57,663	0.1609	0.0702	-0.0906
OHIO	5,727,420	1,765,612	-3,961,808	13.0791	9.6682	-3.4108
OKLAHOMA	0	0	+0	0.0000	0.0000	+0.0000
OREGON	369,420	210,481	-158,939	0.8436	1.1525	+0.3089
PENNSYLVANIA	3,438,990	820,505	-2,618,485	7.8533	4.4929	-3.3603
RHODE ISLAND	122,670	264,208	+141,538	0.2801	1.4467	+1.1666
SOUTH CAROLINA	0	0	+0	0.0000	0.0000	+0.0000
SOUTH DAKOTA	0	1,178	+1,178	0.0000	0.0064	+0.0064
TENNESSEE	160,740	183,380	+22,640	0.3670	1.0041	+0.6371
TEXAS	166,380	48,783	-117,597	0.3799	0.2671	-0.1127
UTAH	0	0	+0	0.0000	0.0000	+0.0000
VERMONT	49,350	161,722	+112,372	0.1126	0.8855	+0.7729
VIRGINIA	290,460	244,947	-45,513	0.6632	1.3412	+0.6780
WASHINGTON	445,560	341,536	-104,024	1.0174	1.8702	+0.8528
WEST VIRGINIA	273,540	426,561	+153,021	0.6246	2.3357	+1.7111
WISCONSIN	716,280	277,214	-439,066	1.6357	1.5179	-0.1177
WYOMING	0	0	+0	0.0000	0.0000	+0.0000
AMERICAN SAMOA	0	0	+0	0.0000	0.0000	+0.0000
GUAM	0	22,602	+22,602	0.0000	0.1237	+0.1237
PUERTO RICO	23,970	0	-23,970	0.0547	0.0000	-0.0546
PAC. TR. TERR.	0	0	+0	0.0000	0.0000	+0.0000
VIRGIN ISLANDS	0	0	+0	0.0000	0.0000	+0.0000
U.S. TOTALS	43,790,370	18,261,883	-25,528,487	100.0000	100.0000	+0.0000

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TABLE 14

1974 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS
FOR TREATMENT AND/OR CONTROL OF STORMWATERS
THOUSANDS OF 1976 DOLLARS
CATEGORY VI

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE	1974 EPA ESTIMATE	1976 EPA ASSESSMENT	CHANGE
ALABAMA	4,698,120	324,263	-4,373,857	1.4178	0.5990	-0.8187
ALASKA	786,780	15,202	-771,578	0.2374	0.0280	-0.2093
ARIZONA	0	523,084	+523,084	0.0000	0.9662	+0.9662
ARKANSAS	3,760,470	116,067	-3,644,403	1.1348	0.2144	-0.9203
CALIFORNIA	98,444,790	5,298,258	-93,146,532	29.7094	9.7875	-19.9218
COLORADO	0	174,078	+174,078	0.0000	0.3215	+0.3215
CONNECTICUT	3,760,470	1,480,345	-2,280,125	1.1348	2.7346	+1.5998
DELAWARE	857,280	93,327	-763,953	0.2587	0.1723	-0.0864
DIST. OF COLUM.	423,000	114,784	-308,216	0.1276	0.2120	+0.0844
FLORIDA	5,964,300	8,237,926	+2,273,626	1.7999	15.2180	+13.4181
GEORGIA	3,942,360	485,067	-3,457,293	1.1897	0.8960	-0.2936
HAWAII	20,586,000	466,062	-20,119,938	6.2126	0.8609	-5.3516
IDAHO	661,290	8,855	-652,435	0.1995	0.0163	-0.1831
ILLINOIS	3,137,250	1,995,860	-1,141,390	0.9467	3.6869	+2.7402
INDIANA	3,379,770	766,155	-2,613,615	1.0199	1.4153	+0.3954
IOWA	4,067,850	134,712	-3,933,138	1.2276	0.2488	-0.9787
KANSAS	3,161,220	124,876	-3,036,344	0.9540	0.2306	-0.7233
KENTUCKY	2,676,180	152,933	-2,523,247	0.8076	0.2825	-0.5250
LOUISIANA	6,416,910	251,775	-6,165,135	1.9365	0.4650	-1.4713
MAINE	421,590	123,589	-298,001	0.1272	0.2282	+0.1010
MARYLAND	13,437,300	1,128,254	-12,309,046	4.0552	2.0842	-1.9709
MASSACHUSETTS	4,400,610	2,333,839	-2,066,771	1.3280	4.3113	+2.9833
MICHIGAN	5,118,300	1,330,395	-3,787,905	1.5446	2.4576	+0.9130
MINNESOTA	2,657,850	275,714	-2,382,136	0.8021	0.5093	-0.2927
MISSISSIPPI	597,840	211,606	-386,234	0.1804	0.3908	+0.2104
MISSOURI	1,579,200	515,075	-1,064,125	0.4765	0.9514	+0.4749
MONTANA	881,250	8,116	-873,134	0.2659	0.0149	-0.2509
NEBRASKA	920,730	65,407	-855,323	0.2778	0.1208	-0.1569
NEVADA	0	124,654	+124,654	0.0000	0.2302	+0.2302
NEW HAMPSHIRE	298,920	131,630	-167,290	0.0902	0.2431	+0.1529
NEW JERSEY	10,651,140	8,044,465	-2,606,675	3.2143	14.8606	+11.6463
NEW MEXICO	46,530	36,421	-10,109	0.0140	0.0672	+0.0532
NEW YORK	28,680,810	2,165,852	-26,514,958	8.6555	4.0009	-4.6546
NORTH CAROLINA	9,702,210	172,358	-9,529,852	2.9280	0.3183	-2.6096
NORTH DAKOTA	485,040	2,032	-483,008	0.1463	0.0037	-0.1425
OHIO	9,263,700	4,752,180	-4,511,520	2.7956	8.7787	+5.9831
OKLAHOMA	4,324,470	240,391	-4,084,079	1.3050	0.4440	-0.8609
OREGON	1,181,580	241,286	-940,294	0.3565	0.4457	+0.0892
PENNSYLVANIA	5,277,630	3,097,523	-2,180,107	1.5927	5.7220	+4.1293
RHODE ISLAND	1,307,070	86,938	-1,220,132	0.3944	0.1605	-0.2337
SOUTH CAROLINA	3,536,280	148,124	-3,388,156	1.0672	0.2736	-0.7935
SOUTH DAKOTA	290,460	6,024	-284,436	0.0876	0.0111	-0.0764
TENNESSEE	5,776,770	405,266	-5,371,504	1.7433	0.7486	-0.9946
TEXAS	16,520,970	3,507,936	-13,013,034	4.9858	6.4802	+1.4944
UTAH	641,550	164,151	-477,399	0.1936	0.3032	+0.1096
VERMONT	207,270	0	-207,270	0.0625	0.0000	-0.0625
VIRGINIA	27,616,260	1,550,490	-26,065,770	8.3342	2.8642	-5.4699
WASHINGTON	2,750,910	248,527	-2,502,383	0.8301	0.4590	-0.3709
WEST VIRGINIA	2,453,400	19,734	-2,433,666	0.7404	0.0364	-0.7039
WISCONSIN	2,698,740	1,911,808	-786,932	0.8144	3.5316	+2.7172
WYOMING	0	0	+0	0.0000	0.0000	+0.0000
AMERICAN SAMOA	59,220	0	-59,220	0.0178	0.0000	-0.0177
GUAM	348,270	319,284	-28,986	0.1051	0.5898	+0.4847
PUERTO RICO	407,490	0	-407,490	0.1229	0.0000	-0.1228
PAC. TR. TERR.	0	0	+0	0.0000	0.0000	+0.0000
VIRGIN ISLANDS	93,060	0	-93,060	0.0280	0.0000	-0.0279
U.S. TOTALS	331,358,460	54,132,690	-277,225,762	100.0000	100.0000	+0.0000

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FEBRUARY 10, 1977
TABLE 15

1976 NEEDS SURVEY

PER CAPITA COSTS FOR CONSTRUCTION OF PUBLICLY-OWNED TREATMENT FACILITIES BASED ON 1975 POPULATION AND PROJECTED 1990 POPULATION

* THOUSANDS OF 1976 DOLLARS
POPULATIONS IN THOUSANDS
CATEGORIES I THRU V

	1976 EPA * ASSESSMENT	1975 POPULATION	COSTS PER CAPITA (1975)	1990 POPULATION	COSTS PER CAPITA (1990)
ALABAMA	865,736	3,614	239	3,850	224
ALASKA	327,358	352	929	408	802
ARIZONA	458,568	2,224	206	3,384	135
ARKANSAS	517,830	2,116	244	2,225	232
CALIFORNIA	5,544,170	21,185	261	26,691	208
COLORADO	697,360	2,534	275	3,400	205
CONNECTICUT	1,273,296	3,095	411	3,946	322
DELAWARE	269,923	579	466	793	340
DIST. OF COLUM.	227,050	716	317	764	297
FLORIDA	3,726,619	8,357	445	11,728	317
GEORGIA	1,635,482	4,926	332	5,667	288
HAWAII	752,666	865	870	1,132	664
IDAHO	437,066	820	533	900	485
ILLINOIS	5,365,808	11,145	481	13,177	407
INDIANA	3,164,264	5,311	595	6,433	491
IOWA	1,035,872	2,870	360	3,053	339
KANSAS	679,048	2,267	299	2,509	270
KENTUCKY	1,283,045	3,396	377	3,741	342
LOUISIANA	707,105	3,791	186	4,159	170
MAINE	962,282	1,059	908	1,142	842
MARYLAND	2,912,881	4,098	710	5,318	547
MASSACHUSETTS	3,400,433	5,828	583	7,052	482
MICHIGAN	5,133,255	9,157	560	10,961	468
MINNESOTA	1,610,440	3,926	410	4,577	351
MISSISSIPPI	750,325	2,346	319	2,359	318
MISSOURI	2,590,169	4,763	543	5,488	471
MONTANA	126,902	748	169	757	167
NEBRASKA	409,771	1,546	265	1,562	262
NEVADA	265,232	592	448	933	284
NEW HAMPSHIRE	1,041,471	818	1,273	1,019	1,022
NEW JERSEY	3,252,921	7,316	444	8,822	368
NEW MEXICO	148,318	1,147	129	1,300	114
NEW YORK	14,514,325	18,120	801	21,799	665
NORTH CAROLINA	1,213,386	5,451	222	5,880	206
NORTH DAKOTA	73,300	635	115	606	120
OHIO	7,192,173	10,759	668	13,202	544
OKLAHOMA	516,837	2,712	190	2,942	175
OREGON	1,382,726	2,288	604	2,943	469
PENNSYLVANIA	3,806,422	11,827	321	13,342	285
RHODE ISLAND	722,882	927	779	1,134	637
SOUTH CAROLINA	957,225	2,818	339	3,023	316
SOUTH DAKOTA	137,654	683	201	643	214
TENNESSEE	1,279,448	4,188	305	4,800	266
TEXAS	2,814,460	12,237	229	15,351	183
UTAH	270,375	1,206	224	1,509	179
VERMONT	388,850	471	825	536	725
VIRGINIA	1,583,252	4,967	318	5,958	265
WASHINGTON	1,999,294	3,544	564	4,194	476
WEST VIRGINIA	2,184,400	1,803	1,211	1,845	1,183
WISCONSIN	1,976,821	4,607	429	5,218	378
WYOMING	67,338	374	180	600	112
AMERICAN SAMOA	59,940	30	1,998	40	1,498
GUAM	94,204	121	778	275	342
PUERTO RICO	898,507	3,049	294	3,786	237
PAC. TR. TERR.	150,217	119	1,262	205	732
VIRGIN ISLANDS	45,805	87	526	116	394
U.S. TOTALS	95,902,490	216,530	442	259,107	370

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FEBRUARY 10, 1977
TABLE 16

1976 NEEDS SURVEY

PER CAPITA COSTS FOR CONSTRUCTION OF PUBLICLY-OWNED TREATMENT FACILITIES
BASED ON 1975 POPULATION AND PROJECTED 1990 POPULATION
* THOUSANDS OF 1976 DOLLARS
POPULATIONS IN THOUSANDS
CATEGORIES I II IVB

	1976 EPA * ASSESSMENT	1975 POPULATION	COSTS PER CAPITA (1975)	1990 POPULATION	COSTS PER CAPITA (1990)
ALABAMA	590,823	3,614	163	3,850	153
ALASKA	253,801	352	721	408	622
ARIZONA	353,265	2,224	158	3,384	104
ARKANSAS	341,833	2,116	161	2,225	153
CALIFORNIA	4,220,309	21,185	199	26,601	158
COLORADO	427,839	2,534	168	3,400	125
CONNECTICUT	376,756	3,095	121	3,946	95
DELAWARE	192,355	579	332	793	242
DIST. OF COLUM.	19,753	716	27	764	25
FLORIDA	2,484,636	8,357	297	11,728	211
GEORGIA	1,081,067	4,926	219	5,667	190
HAWAII	623,976	865	721	1,132	551
IDAHO	317,190	820	386	900	352
ILLINOIS	2,285,556	11,145	205	13,177	173
INDIANA	1,213,627	5,311	228	6,433	188
IOWA	795,990	2,870	277	3,053	260
KANSAS	459,347	2,267	202	2,509	183
KENTUCKY	859,305	3,396	253	3,741	229
LOUISIANA	497,785	3,791	131	4,159	119
MAINE	278,380	1,059	262	1,142	243
MARYLAND	1,654,146	4,098	403	5,318	311
MASSACHUSETTS	1,625,728	5,828	278	7,052	230
MICHIGAN	1,903,842	9,157	207	10,961	173
MINNESOTA	1,181,731	3,926	301	4,577	258
MISSISSIPPI	585,512	2,346	249	2,359	248
MISSOURI	1,119,255	4,763	234	5,488	203
MONTANA	101,373	748	135	757	133
NEBRASKA	244,299	1,546	158	1,562	156
NEVADA	221,715	592	374	933	237
NEW HAMPSHIRE	506,808	818	619	1,019	497
NEW JERSEY	2,097,511	7,316	286	8,822	237
NEW MEXICO	119,992	1,147	104	1,300	92
NEW YORK	5,928,637	18,120	327	21,799	271
NORTH CAROLINA	1,007,924	5,451	184	5,880	171
NORTH DAKOTA	53,320	635	83	606	87
OHIO	3,464,454	10,759	322	13,202	262
OKLAHOMA	404,846	2,712	149	2,942	137
OREGON	778,313	2,288	340	2,943	264
PENNSYLVANIA	2,001,200	11,827	169	13,342	149
RHODE ISLAND	218,990	927	236	1,134	193
SOUTH CAROLINA	749,950	2,818	266	3,023	248
SOUTH DAKOTA	128,663	683	188	643	200
TENNESSEE	735,783	4,188	175	4,800	153
TEXAS	2,064,261	12,237	168	15,351	134
UTAH	193,154	1,206	160	1,509	128
VERMONT	141,468	471	300	536	263
VIRGINIA	1,112,681	4,967	224	5,958	186
WASHINGTON	1,020,757	3,544	288	4,194	243
WEST VIRGINIA	1,123,777	1,803	623	1,845	609
WISCONSIN	1,061,783	4,607	230	5,218	203
WYOMING	64,789	374	173	600	107
AMERICAN SAMOA	50,338	30	1,677	40	1,258
GUAM	40,126	121	331	275	145
PUERTO RICO	640,553	3,049	210	3,786	169
PAC. TR. TERR.	114,499	119	962	205	558
VIRGIN ISLANDS	21,722	87	249	116	187
U.S. TOTALS	52,157,501	216,530	240	259,107	201

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FEBRUARY 10, 1977
TABLE 17

1976 NEEDS SURVEY

PER CAPITA COSTS FOR CONSTRUCTION OF PUBLICLY-OWNED TREATMENT FACILITIES BASED ON 1975 POPULATION AND PROJECTED 1990 POPULATION

* THOUSANDS OF 1976 DOLLARS
POPULATIONS IN THOUSANDS
CATEGORY I

	1976 EPA * ASSESSMENT	1975 POPULATION	COSTS PER CAPITA (1975)	1990 POPULATION	COSTS PER CAPITA (1990)
ALABAMA	164,311	3,614	45	3,850	42
ALASKA	110,213	352	313	408	270
ARIZONA	216,244	2,224	97	3,384	63
ARKANSAS	78,115	2,116	36	2,225	35
CALIFORNIA	2,187,873	21,185	103	26,601	82
COLORADO	90,483	2,534	35	3,400	26
CONNECTICUT	129,102	3,095	41	3,946	32
DELAWARE	720	579	1	793	0
DIST. OF COLUM.	0	716	0	764	0
FLORIDA	286,261	8,357	34	11,728	24
GEORGIA	98,629	4,926	20	5,667	17
HAWAII	320,894	865	370	1,132	283
IDAHO	131,339	820	160	900	145
ILLINOIS	51,034	11,145	4	13,177	3
INDIANA	80,097	5,311	15	6,433	12
IOWA	236,725	2,870	82	3,053	77
KANSAS	271,671	2,267	119	2,509	108
KENTUCKY	46,746	3,396	13	3,741	12
LOUISIANA	314,990	3,791	83	4,159	75
MAINE	119,586	1,059	112	1,142	104
MARYLAND	7,588	4,098	1	5,310	1
MASSACHUSETTS	705,498	5,828	121	7,052	100
MICHIGAN	29,100	9,157	3	10,961	2
MINNESOTA	0	3,926	0	4,577	0
MISSISSIPPI	65,291	2,346	27	2,359	27
MISSOURI	659,649	4,763	138	5,480	120
MONTANA	43,395	748	58	757	57
NEBRASKA	163,032	1,546	105	1,562	104
NEVADA	51,348	592	86	933	55
NEW HAMPSHIRE	169,869	818	207	1,019	166
NEW JERSEY	803,824	7,316	109	8,822	91
NEW MEXICO	66,159	1,147	57	1,300	50
NEW YORK	2,531,814	18,120	139	21,799	116
NORTH CAROLINA	72,882	5,451	13	5,880	12
NORTH DAKOTA	39,452	635	62	606	65
OHIO	28,029	10,759	2	13,202	2
OKLAHOMA	8,854	2,712	3	2,942	3
OREGON	93,342	2,288	40	2,943	31
PENNSYLVANIA	258,124	11,827	21	13,342	19
RHODE ISLAND	57,294	927	61	1,134	50
SOUTH CAROLINA	180,832	2,818	64	3,023	59
SOUTH DAKOTA	23,521	683	34	643	36
TENNESSEE	89,897	4,188	21	4,800	18
TEXAS	8,462	12,237	0	15,351	0
UTAH	61	1,206	0	1,509	0
VERMONT	45,636	471	96	536	85
VIRGINIA	403,053	4,967	81	5,958	67
WASHINGTON	406,043	3,544	114	4,194	97
WEST VIRGINIA	260,791	1,803	144	1,845	141
WISCONSIN	165,836	4,607	35	5,218	31
WYOMING	60,093	374	160	600	100
AMERICAN SAMOA	28,259	30	941	40	706
GUAM	23,108	121	190	275	84
PUERTO RICO	352,518	3,049	115	3,786	93
PAC. TR. TERR.	110,970	119	932	205	541
VIRGIN ISLANDS	4,913	87	56	116	42
U.S. TOTALS	12,955,101	216,530	59	259,107	49

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FEBRUARY 10, 1977
TABLE 18

1976 NEEDS SURVEY

PER CAPITA COSTS FOR CONSTRUCTION OF PUBLICLY-OWNED TREATMENT FACILITIES
BASED ON 1975 POPULATION AND PROJECTED 1990 POPULATION

* THOUSANDS OF 1976 DOLLARS
POPULATIONS IN THOUSANDS
CATEGORY II

	1976 EPA * ASSESSMENT	1975 POPULATION	COSTS PER CAPITA (1975)	1990 POPULATION	COSTS PER CAPITA (1990)
ALABAMA	254,426	3,614	70	3,850	66
ALASKA	25,000	352	71	408	61
ARIZONA	5,803	2,224	2	3,384	1
ARKANSAS	207,660	2,116	98	2,225	93
CALIFORNIA	1,184,893	21,185	55	26,601	44
COLORADO	300,236	2,534	118	3,400	88
CONNECTICUT	63,970	3,095	20	3,946	16
DELAWARE	94,778	579	163	793	119
DIST. OF COLUM.	12,486	716	17	764	16
FLORIDA	1,209,039	8,357	144	11,720	103
GEORGIA	607,460	4,926	123	5,667	107
HAWAII	0	865	0	1,132	0
IDAHO	47,550	820	57	900	52
ILLINOIS	1,775,405	11,145	159	13,177	134
INDIANA	753,298	5,311	141	6,433	117
IOWA	410,352	2,870	142	3,053	134
KANSAS	25,321	2,267	11	2,509	10
KENTUCKY	427,351	3,396	125	3,741	114
LOUISIANA	75,717	3,791	19	4,159	18
MAINE	16,359	1,059	15	1,142	14
MARYLAND	1,201,010	4,098	293	5,318	225
MASSACHUSETTS	287,224	5,828	49	7,052	40
MICHIGAN	901,277	9,157	98	10,961	82
MINNESOTA	874,630	3,926	222	4,577	191
MISSISSIPPI	370,583	2,346	157	2,359	157
MISSOURI	7,001	4,763	1	5,400	1
MONTANA	15,576	748	20	757	20
NEBRASKA	24,174	1,546	15	1,562	15
NEVADA	118,684	592	200	933	127
NEW HAMPSHIRE	78,275	818	95	1,019	76
NEW JERSEY	714,632	7,316	97	8,822	81
NEW MEXICO	32,974	1,147	28	1,300	25
NEW YORK	1,241,121	18,120	68	21,799	56
NORTH CAROLINA	522,085	5,451	95	5,888	88
NORTH DAKOTA	205	635	0	686	0
OHIO	2,062,362	10,759	191	13,202	156
OKLAHOMA	279,140	2,712	102	2,942	94
OREGON	314,628	2,288	137	2,943	106
PENNSYLVANIA	1,257,669	11,827	106	13,342	94
RHODE ISLAND	78,954	927	85	1,134	69
SOUTH CAROLINA	226,847	2,818	80	3,023	75
SOUTH DAKOTA	86,969	683	127	643	135
TENNESSEE	393,411	4,188	93	4,800	81
TEXAS	1,375,180	12,237	112	15,351	89
UTAH	167,936	1,206	139	1,509	111
VERMONT	67,961	471	144	536	126
VIRGINIA	307,365	4,967	61	5,958	51
WASHINGTON	239,017	3,544	67	4,194	56
WEST VIRGINIA	86,788	1,803	48	1,845	47
WISCONSIN	414,781	4,607	90	5,218	79
WYOMING	0	374	0	600	0
AMERICAN SAMOA	0	30	0	40	0
GUAM	0	121	0	275	0
PUERTO RICO	19,135	3,049	6	3,786	5
PAC. TR. TERR.	0	119	0	205	0
VIRGIN ISLANDS	13,675	87	157	116	117
U.S. TOTALS	21,279,349	216,530	98	259,107	82

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FEBRUARY 10, 1977
TABLE 19

1976 NEEDS SURVEY

PER CAPITA COSTS FOR CONSTRUCTION OF PUBLICLY-OWNED TREATMENT FACILITIES BASED ON 1975 POPULATION AND PROJECTED 1990 POPULATION

* THOUSANDS OF 1976 DOLLARS
POPULATIONS IN THOUSANDS
CATEGORY III A

	1976 EPA * ASSESSMENT	1975 POPULATION	COSTS PER CAPITA (1975)	1990 POPULATION	COSTS PER CAPITA (1990)
ALABAMA	65,989	3,614	18	3,850	17
ALASKA	1,642	352	4	408	4
ARIZONA	1,347	2,224	0	3,384	0
ARKANSAS	21,219	2,116	10	2,225	9
CALIFORNIA	98,518	21,185	4	26,601	3
COLORADO	20,414	2,534	8	3,400	6
CONNECTICUT	31,273	3,095	10	3,946	7
DELAWARE	3,803	579	6	793	4
DIST. OF COLUM.	58,000	716	81	764	75
FLORIDA	95,340	8,357	11	11,728	8
GEORGIA	41,586	4,926	8	5,667	7
HAWAII	117	865	0	1,132	0
IDAHO	16,531	820	20	900	18
ILLINOIS	103,164	11,145	9	13,177	7
INDIANA	201,271	5,311	37	6,433	31
IOWA	56,157	2,870	19	3,053	18
KANSAS	33,749	2,267	14	2,509	13
KENTUCKY	64,579	3,396	19	3,741	17
LOUISIANA	109,968	3,791	29	4,159	26
MAINE	14,486	1,059	13	1,142	12
MARYLAND	21,607	4,098	5	5,318	4
MASSACHUSETTS	16,865	5,828	2	7,052	2
MICHIGAN	73,819	9,157	7	10,961	6
MINNESOTA	24,705	3,926	6	4,577	5
MISSISSIPPI	109,928	2,346	46	2,359	46
MISSOURI	19,187	4,763	4	5,408	3
MONTANA	6,481	748	8	757	8
NEBRASKA	4,934	1,546	3	1,562	3
NEVADA	2,207	592	3	933	2
NEW HAMPSHIRE	6,711	818	8	1,019	6
NEW JERSEY	125,117	7,316	17	8,822	14
NEW MEXICO	4,249	1,147	3	1,300	3
NEW YORK	148,269	18,120	8	21,799	6
NORTH CAROLINA	57,695	5,451	10	5,888	9
NORTH DAKOTA	284	635	0	606	0
OHIO	629,831	10,759	58	13,202	47
OKLAHOMA	32,968	2,712	12	2,942	11
OREGON	116,820	2,288	50	2,943	39
PENNSYLVANIA	33,253	11,827	2	13,342	2
RHODE ISLAND	8,512	927	9	1,134	7
SOUTH CAROLINA	38,408	2,818	13	3,023	12
SOUTH DAKOTA	4,567	683	6	643	7
TENNESSEE	52,520	4,188	12	4,888	10
TEXAS	178,791	12,237	14	15,351	11
UTAH	42,221	1,206	35	1,509	27
VERMONT	1,655	471	3	536	3
VIRGINIA	29,666	4,967	5	5,958	4
WASHINGTON	107,853	3,544	30	4,194	25
WEST VIRGINIA	7,392	1,803	4	1,845	4
WISCONSIN	72,527	4,607	15	5,218	13
WYOMING	1,875	374	5	600	3
AMERICAN SAMOA	0	30	0	40	0
GUAM	465	121	3	275	1
PUERTO RICO	6,088	3,049	1	3,786	1
PAC. TR. TERR.	0	119	0	205	0
VIRGIN ISLANDS	87	87	1	116	0
U.S. TOTALS	3,017,102	216,530	13	259,107	11

FEBRUARY 10, 1977
TABLE 20

1976 NEEDS SURVEY

PER CAPITA COSTS FOR CONSTRUCTION OF PUBLICLY-OWNED TREATMENT FACILITIES BASED ON 1975 POPULATION AND PROJECTED 1990 POPULATION

* THOUSANDS OF 1976 DOLLARS
POPULATIONS IN THOUSANDS
CATEGORY III B

	1976 EPA * ASSESSMENT	1975 POPULATION	COSTS PER CAPITA (1975)	1990 POPULATION	COSTS PER CAPITA (1990)
ALABAMA	2,570	3,614	0	3,850	0
ALASKA	67	352	0	408	0
ARIZONA	0	2,224	0	3,384	0
ARKANSAS	0	2,116	0	2,225	0
CALIFORNIA	9,343	21,185	0	26,601	0
COLORADO	237,621	2,534	93	3,400	69
CONNECTICUT	10,034	3,095	3	3,946	2
DELAWARE	1,468	579	2	793	1
DIST. OF COLUM.	0	716	0	764	0
FLORIDA	6,500	8,357	0	11,728	0
GEORGIA	481	4,926	0	5,667	0
HAWAII	0	865	0	1,132	0
IDAHO	724	820	0	900	0
ILLINOIS	58,081	11,145	5	13,177	4
INDIANA	57,545	5,311	10	6,433	8
IOWA	0	2,870	0	3,053	0
KANSAS	819	2,267	0	2,509	0
KENTUCKY	0	3,396	0	3,741	0
LOUISIANA	2,257	3,791	0	4,159	0
MAINE	3,722	1,059	3	1,142	3
MARYLAND	1,128,920	4,098	275	5,318	212
MASSACHUSETTS	46,715	5,828	8	7,052	6
MICHIGAN	578,444	9,157	63	10,961	52
MINNESOTA	10,205	3,926	2	4,577	2
MISSISSIPPI	2,100	2,346	0	2,359	0
MISSOURI	0	4,763	0	5,480	0
MONTANA	1,165	748	1	757	1
NEBRASKA	0	1,546	0	1,562	0
NEVADA	22	592	0	933	0
NEW HAMPSHIRE	3,988	818	4	1,019	3
NEW JERSEY	27,842	7,316	3	8,622	3
NEW MEXICO	784	1,147	0	1,300	0
NEW YORK	2,525,667	18,120	139	21,799	115
NORTH CAROLINA	0	5,451	0	5,880	0
NORTH DAKOTA	1,358	635	2	606	2
OHIO	357,393	10,759	33	13,202	27
OKLAHOMA	12,837	2,712	4	2,942	4
OREGON	34,834	2,288	15	2,943	11
PENNSYLVANIA	0	11,827	0	13,342	0
RHODE ISLAND	200	927	0	1,134	0
SOUTH CAROLINA	0	2,818	0	3,023	0
SOUTH DAKOTA	151	683	0	643	0
TENNESSEE	0	4,188	0	4,800	0
TEXAS	61,818	12,237	5	15,351	4
UTAH	0	1,206	0	1,509	0
VERMONT	5,855	471	12	536	10
VIRGINIA	1,080	4,967	0	5,958	0
WASHINGTON	136,647	3,544	38	4,194	32
WEST VIRGINIA	69	1,803	0	1,845	0
WISCONSIN	143,512	4,607	31	5,218	27
WYOMING	0	374	0	600	0
AMERICAN SAMOA	2,000	30	66	40	50
GUAM	0	121	0	275	0
PUERTO RICO	11,704	3,049	3	3,786	3
PAC. TR. TERR.	0	119	0	205	0
VIRGIN ISLANDS	0	87	0	116	0
U.S. TOTALS	5,486,542	216,538	25	289,107	21

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FEBRUARY 10, 1977
TABLE 21

1976 NEEDS SURVEY

PER CAPITA COSTS FOR CONSTRUCTION OF PUBLICLY-OWNED TREATMENT FACILITIES
BASED ON 1975 POPULATION AND PROJECTED 1990 POPULATION

* THOUSANDS OF 1976 DOLLARS
POPULATIONS IN THOUSANDS
CATEGORY IV A

	1976 EPA * ASSESSMENT	1975 POPULATION	COSTS PER CAPITA (1975)	1990 POPULATION	COSTS PER CAPITA (1990)
ALABAMA	206,354	3,614	57	3,850	53
ALASKA	60,829	352	195	408	168
ARIZONA	103,956	2,224	46	3,384	30
ARKANSAS	107,959	2,116	51	2,225	48
CALIFORNIA	838,893	21,185	39	26,601	31
COLORADO	8,118	2,534	3	3,400	2
CONNECTICUT	467,916	3,095	151	3,946	118
DELAWARE	32,564	579	56	793	41
DIST. OF COLUM.	0	716	0	724	0
FLORIDA	1,139,643	8,357	136	11,728	97
GEORGIA	211,122	4,926	42	5,667	37
HAWAII	120,573	865	148	1,132	113
IDAHO	94,052	820	114	900	104
ILLINOIS	333,499	11,145	29	13,177	25
INDIANA	458,843	5,311	86	6,433	71
IOWA	92,935	2,870	32	3,053	30
KANSAS	77,172	2,267	34	2,509	30
KENTUCKY	226,977	3,396	66	3,741	60
LOUISIANA	97,895	3,791	25	4,159	23
MAINE	183,441	1,059	173	1,142	160
MARYLAND	60,748	4,098	14	5,318	11
MASSACHUSETTS	834,956	5,828	143	7,052	118
MICHIGAN	1,230,494	9,157	134	10,961	112
MINNESOTA	170,402	3,926	43	4,577	37
MISSISSIPPI	52,785	2,346	22	2,359	22
MISSOURI	159,597	4,763	33	5,488	29
MONTANA	17,883	748	23	757	23
NEBRASKA	14,423	1,546	9	1,562	9
NEVADA	26,624	592	44	933	28
NEW HAMPSHIRE	216,804	818	264	1,019	211
NEW JERSEY	397,531	7,316	54	8,822	45
NEW MEXICO	23,285	1,147	20	1,300	17
NEW YORK	3,248,326	18,120	179	21,799	149
NORTH CAROLINA	147,767	5,451	27	5,888	25
NORTH DAKOTA	5,501	635	8	606	9
OHIO	974,883	10,759	90	13,202	73
OKLAHOMA	66,186	2,712	24	2,942	22
OREGON	243,076	2,288	106	2,943	82
PENNSYLVANIA	951,464	11,827	80	13,342	71
RHODE ISLAND	230,972	927	249	1,134	203
SOUTH CAROLINA	168,867	2,818	59	3,023	55
SOUTH DAKOTA	3,095	683	4	643	4
TENNESSEE	307,765	4,188	73	4,800	64
TEXAS	460,807	12,237	37	15,351	30
UTAH	35,000	1,206	29	1,509	23
VERMONT	78,150	471	165	536	145
VIRGINIA	194,878	4,967	39	5,958	32
WASHINGTON	392,501	3,544	110	4,194	93
WEST VIRGINIA	626,601	1,803	347	1,845	339
WISCONSIN	421,785	4,607	91	5,218	80
WYOMING	674	374	1	600	1
AMERICAN SAMOA	7,602	30	253	40	190
GUAM	31,011	121	256	275	112
PUERTO RICO	240,162	3,049	78	3,786	63
PAC. TR. TERR.	35,718	119	300	205	174
VIRGIN ISLANDS	23,996	87	275	116	206
U.S. TOTALS	16,979,462	216,530	78	259,107	65

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FEBRUARY 10, 1977
TABLE 22

1976 NEEDS SURVEY

PER CAPITA COSTS FOR CONSTRUCTION OF PUBLICLY-OWNED TREATMENT FACILITIES
BASED ON 1975 POPULATION AND PROJECTED 1990 POPULATION
* THOUSANDS OF 1976 DOLLARS
POPULATIONS IN THOUSANDS
CATEGORY IV B

	1976 EPA * ASSESSMENT	1975 POPULATION	COSTS PER CAPITA (1975)	1990 POPULATION	COSTS PER CAPITA (1990)
ALABAMA	172,086	3,614	47	3,850	44
ALASKA	118,580	352	336	400	296
ARIZONA	131,218	2,224	59	3,384	38
ARKANSAS	56,050	2,116	26	2,225	25
CALIFORNIA	847,543	21,185	40	26,601	31
COLORADO	37,120	2,534	14	3,400	10
CONNECTICUT	183,606	3,095	59	3,946	46
DELAWARE	96,857	579	167	793	122
DIST. OF COLUM.	7,267	716	10	764	9
FLORIDA	989,336	8,357	118	11,728	84
GEORGIA	374,978	4,926	76	5,667	66
HAWAII	303,082	865	350	1,132	267
IDAHO	138,301	820	168	900	153
ILLINOIS	459,037	11,145	41	13,177	34
INDIANA	380,232	5,311	71	6,433	59
IOWA	148,913	2,870	51	3,053	48
KANSAS	162,355	2,267	71	2,509	64
KENTUCKY	385,208	3,396	113	3,741	102
LOUISIANA	107,078	3,791	28	4,159	25
MAINE	142,443	1,059	134	1,142	124
MARYLAND	444,740	4,098	108	5,318	83
MASSACHUSETTS	633,006	5,820	108	7,052	89
MICHIGAN	973,465	9,157	106	10,961	88
MINNESOTA	307,101	3,926	78	4,577	67
MISSISSIPPI	149,630	2,346	63	2,359	63
MISSOURI	452,534	4,763	95	5,488	82
MONTANA	42,402	748	56	757	56
NEBRASKA	57,093	1,546	36	1,562	36
NEVADA	51,683	592	87	933	55
NEW HAMPSHIRE	258,724	818	316	1,019	253
NEW JERSEY	579,055	7,316	79	8,822	65
NEW MEXICO	20,859	1,147	18	1,300	16
NEW YORK	2,155,702	18,120	118	21,799	98
NORTH CAROLINA	412,957	5,451	75	5,880	70
NORTH DAKOTA	13,663	635	21	606	22
OHIO	1,373,263	10,759	127	13,202	104
OKLAHOMA	116,852	2,712	43	2,942	39
OREGON	370,343	2,288	161	2,943	125
PENNSYLVANIA	485,407	11,827	41	13,342	36
RHODE ISLAND	82,742	927	89	1,134	72
SOUTH CAROLINA	342,271	2,818	121	3,023	113
SOUTH DAKOTA	18,173	683	26	643	28
TENNESSEE	252,475	4,188	60	4,800	52
TEXAS	680,619	12,237	55	15,351	44
UTAH	25,157	1,206	20	1,509	16
VERMONT	27,871	471	59	536	51
VIRGINIA	402,263	4,967	80	5,958	67
WASHINGTON	374,897	3,544	105	4,194	89
WEST VIRGINIA	776,198	1,803	430	1,845	420
WISCONSIN	481,166	4,607	104	5,218	92
WYOMING	4,696	374	12	600	7
AMERICAN SAMOA	22,079	30	735	40	551
GUAM	17,018	121	140	275	61
PUERTO RICO	268,900	3,049	88	3,786	71
PAC. TR. TERR.	3,529	119	29	205	17
VIRGIN ISLANDS	3,134	87	36	116	27
U.S. TOTALS	17,923,051	216,530	82	259,107	69

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FEBRUARY 10, 1977
TABLE 23

1976 NEEDS SURVEY

PER CAPITA COSTS FOR CONSTRUCTION OF PUBLICLY-OWNED TREATMENT FACILITIES BASED ON 1975 POPULATION AND PROJECTED 1990 POPULATION

* THOUSANDS OF 1976 DOLLARS
POPULATIONS IN THOUSANDS
CATEGORY V

	1976 EPA * ASSESSMENT	1975 POPULATION	COSTS PER CAPITA (1975)	1990 POPULATION	COSTS PER CAPITA (1990)
ALABAMA	0	3,614	0	3,850	0
ALASKA	3,019	352	8	408	7
ARIZONA	0	2,224	0	3,384	0
ARKANSAS	46,819	2,116	22	2,225	21
CALIFORNIA	385,115	21,185	18	26,601	14
COLORADO	3,368	2,534	1	3,400	0
CONNECTICUT	387,317	3,095	125	3,946	98
DELAWARE	39,733	579	68	793	50
DIST. OF COLUM.	149,297	716	208	764	195
FLORIDA	500	8,357	0	11,728	0
GEORGIA	301,226	4,926	61	5,667	53
HAWAII	0	865	0	1,132	0
IDAHO	8,569	820	10	900	9
ILLINOIS	2,585,508	11,145	231	13,177	196
INDIANA	1,232,978	5,311	232	6,433	191
IOWA	90,790	2,870	31	3,053	29
KANSAS	107,961	2,267	47	2,509	43
KENTUCKY	132,184	3,396	38	3,741	35
LOUISIANA	0	3,791	0	4,159	0
MAINE	482,245	1,059	455	1,142	422
MARYLAND	47,460	4,098	11	5,318	8
MASSACHUSETTS	876,169	5,828	150	7,052	124
MICHIGAN	1,347,456	9,157	147	10,961	122
MINNESOTA	223,397	3,926	56	4,577	48
MISSISSIPPI	0	2,346	0	2,359	0
MISSOURI	1,292,121	4,763	271	5,488	235
MONTANA	0	748	0	757	0
NEBRASKA	146,115	1,546	94	1,562	93
NEVADA	14,664	592	24	933	15
NEW HAMPSHIRE	307,968	818	376	1,019	302
NEW JERSEY	604,920	7,316	82	8,822	68
NEW MEXICO	0	1,147	0	1,380	0
NEW YORK	2,663,426	18,120	146	21,799	122
NORTH CAROLINA	0	5,451	0	5,880	0
NORTH DAKOTA	12,837	635	20	606	21
OHIO	1,765,612	10,759	164	13,202	133
OKLAHOMA	0	2,712	0	2,942	0
OREGON	210,481	2,288	91	2,943	71
PENNSYLVANIA	820,505	11,827	69	13,342	61
RHODE ISLAND	264,208	927	285	1,134	232
SOUTH CAROLINA	0	2,818	0	3,023	0
SOUTH DAKOTA	1,178	683	1	643	1
TENNESSEE	183,380	4,188	43	4,800	38
TEXAS	48,783	12,237	3	15,351	3
UTAH	0	1,206	0	1,509	0
VERMONT	161,722	471	343	536	301
VIRGINIA	244,947	4,967	49	5,958	41
WASHINGTON	341,536	3,544	96	4,194	81
WEST VIRGINIA	426,561	1,803	236	1,845	231
WISCONSIN	277,214	4,607	60	5,218	53
WYOMING	0	374	0	600	0
AMERICAN SAMOA	0	30	0	40	0
GUAM	22,602	121	186	275	82
PUERTO RICO	0	3,049	0	3,786	0
PAC. TR. TERR.	0	119	0	205	0
VIRGIN ISLANDS	0	87	0	116	0
U.S. TOTALS	18,261,883	216,530	84	259,107	70

A-16.23

FEBRUARY 10, 1977
TABLE 24

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS FOR CONSTRUCTION OF PUBLICLY-OWNED WASTEWATER TREATMENT FACILITIES

THOUSANDS OF 1976 DOLLARS
CATEGORIES I THROUGH V

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE
ALABAMA	865,736	865,736	+0	0.8620	0.9027	+0.0406
ALASKA	329,349	327,358	-1,991	0.3279	0.3413	+0.0133
ARIZONA	458,568	458,568	+0	0.4566	0.4781	+0.0215
ARKANSAS	519,007	517,830	-1,177	0.5168	0.5399	+0.0231
CALIFORNIA	6,420,560	5,544,170	-876,390	6.3935	5.7810	-0.6124
COLORADO	707,177	697,360	-9,817	0.7042	0.7271	+0.0229
CONNECTICUT	1,293,702	1,273,296	-20,406	1.2882	1.3276	+0.0394
DELAWARE	269,923	269,923	+0	0.2687	0.2814	+0.0126
DIST. OF COLUM.	227,050	227,050	+0	0.2260	0.2367	+0.0106
FLORIDA	3,726,619	3,726,619	+0	3.7109	3.8858	+0.1749
GEORGIA	1,635,482	1,635,482	+0	1.6285	1.7053	+0.0767
HAWAII	763,478	752,666	-10,812	0.7602	0.7848	+0.0245
IDAHO	440,934	437,066	-3,868	0.4390	0.4557	+0.0166
ILLINOIS	5,379,422	5,365,808	-13,614	5.3567	5.5950	+0.2382
INDIANA	3,245,657	3,164,264	-81,393	3.2319	3.2994	+0.0674
IOWA	1,085,475	1,035,872	-49,603	1.0809	1.0801	-0.0007
KANSAS	838,854	679,048	-159,806	0.8353	0.7080	-0.1272
KENTUCKY	1,283,045	1,283,045	+0	1.2776	1.3378	+0.0602
LOUISIANA	707,105	707,105	+0	0.7041	0.7373	+0.0331
MAINE	962,282	962,282	+0	0.9582	1.0033	+0.0451
MARYLAND	2,912,881	2,912,881	+0	2.9006	3.0373	+0.1367
MASSACHUSETTS	3,400,433	3,400,433	+0	3.3861	3.5457	+0.1596
MICHIGAN	5,146,988	5,133,255	-13,733	5.1253	5.3525	+0.2272
MINNESOTA	1,610,440	1,610,440	+0	1.6036	1.6792	+0.0755
MISSISSIPPI	750,325	750,325	+0	0.7471	0.7823	+0.0352
MISSOURI	2,590,160	2,590,160	+0	2.5792	2.7008	+0.1215
MONTANA	127,102	126,902	-200	0.1265	0.1323	+0.0057
NEBRASKA	410,021	409,771	-250	0.4082	0.4272	+0.0189
NEVADA	265,232	265,232	+0	0.2641	0.2765	+0.0124
NEW HAMPSHIRE	1,041,471	1,041,471	+0	1.0370	1.0859	+0.0488
NEW JERSEY	3,271,773	3,252,921	-18,852	3.2580	3.3919	+0.1339
NEW MEXICO	148,310	148,310	+0	0.1476	0.1546	+0.0069
NEW YORK	16,510,984	14,514,325	-1,996,659	16.4414	15.1344	-1.3070
NORTH CAROLINA	1,213,386	1,213,386	+0	1.2082	1.2652	+0.0569
NORTH DAKOTA	77,596	73,300	-4,296	0.0772	0.0764	-0.0008
OHIO	7,270,155	7,192,173	-77,982	7.2395	7.4994	+0.2599
OKLAHOMA	524,317	516,837	-7,480	0.5221	0.5389	+0.0168
OREGON	1,486,679	1,382,726	-103,953	1.4804	1.4418	-0.0386
PENNSYLVANIA	3,806,422	3,806,422	+0	3.7903	3.9690	+0.1786
RHODE ISLAND	772,082	722,882	-49,200	0.7688	0.7537	-0.0150
SOUTH CAROLINA	957,225	957,225	+0	0.9531	0.9981	+0.0449
SOUTH DAKOTA	137,654	137,654	+0	0.1370	0.1435	+0.0064
TENNESSEE	1,279,448	1,279,448	+0	1.2740	1.3341	+0.0600
TEXAS	2,881,265	2,814,460	-66,805	2.8691	2.9347	+0.0655
UTAH	270,375	270,375	+0	0.2692	0.2819	+0.0126
VERMONT	392,592	388,850	-3,742	0.3909	0.4054	+0.0145
VIRGINIA	1,757,827	1,583,252	-174,575	1.7504	1.6508	-0.0995
WASHINGTON	2,437,534	1,999,294	-438,240	2.4272	2.0847	-0.3425
WEST VIRGINIA	2,184,400	2,184,400	+0	2.1752	2.2777	+0.1025
WISCONSIN	2,194,717	1,976,821	-217,896	2.1854	2.0612	-0.1241
WYOMING	67,338	67,338	+0	0.0670	0.0702	+0.0031
AMERICAN SAMOA	59,940	59,940	+0	0.0596	0.0625	+0.0028
GUAM	94,204	94,204	+0	0.0938	0.0982	+0.0044
PUERTO RICO	1,009,368	898,507	-110,861	1.0051	0.9368	-0.0682
PAC. TR. TERR.	150,217	150,217	+0	0.1495	0.1566	+0.0070
VIRGIN ISLANDS	52,456	45,805	-6,651	0.0522	0.0477	-0.0044
U.S. TOTALS	100,422,742	95,902,490	-4,520,252	100.0000	100.0000	+0.0000

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FEBRUARY 10, 1977
TABLE 25

1976 NEEDS SURVEY

PER CAPITA COSTS FOR CONSTRUCTION OF PUBLICLY-OWNED TREATMENT FACILITIES
BASED ON 1990 POPULATION
* THOUSANDS OF 1976 DOLLARS
POPULATIONS IN THOUSANDS
CATEGORIES I THRU V

	STATE * ESTIMATE	EPA * ASSESSMENT	1990 POP.	STATE COSTS PER CAPITA	EPA COSTS PER CAPITA	DIFF. IN PER CAPITA COSTS
ALABAMA	865,736	865,736	3,850	224	224	+0
ALASKA	329,349	327,358	408	807	802	-5
ARIZONA	458,568	458,568	3,384	135	135	+0
ARKANSAS	519,007	517,030	2,225	233	232	1
CALIFORNIA	6,420,560	5,544,170	26,601	241	208	-33
COLORADO	707,177	697,360	3,400	207	205	-2
CONNECTICUT	1,293,702	1,273,296	3,946	327	322	-5
DELAWARE	269,923	269,923	793	340	340	+0
DIST. OF COLUM.	227,050	227,050	764	297	297	+0
FLORIDA	3,726,619	3,726,619	11,728	317	317	+0
GEORGIA	1,635,482	1,635,482	5,667	288	288	+0
HAWAII	763,470	752,666	1,132	674	664	-10
IDAHO	440,934	437,066	900	489	485	-4
ILLINOIS	5,379,422	5,365,808	13,177	408	407	-1
INDIANA	3,245,657	3,164,264	6,433	504	491	-13
IOWA	1,085,475	1,035,872	3,053	355	339	-16
KANSAS	838,854	679,048	2,509	334	270	-64
KENTUCKY	1,283,045	1,283,045	3,741	342	342	+0
LOUISIANA	707,105	707,105	4,159	170	170	+0
MAINE	962,282	962,282	1,142	842	842	+0
MARYLAND	2,912,801	2,912,881	5,318	547	547	+0
MASSACHUSETTS	3,400,433	3,400,433	7,052	482	482	+0
MICHIGAN	5,146,908	5,133,255	10,961	469	468	-1
MINNESOTA	1,610,440	1,610,443	4,577	351	351	+0
MISSISSIPPI	750,325	750,325	2,359	318	318	+0
MISSOURI	2,590,160	2,590,160	5,488	471	471	+0
MONTANA	127,102	126,902	757	167	167	+0
NEBRASKA	410,021	409,771	1,562	262	262	+0
NEVADA	265,232	265,232	933	284	284	+0
NEW HAMPSHIRE	1,041,471	1,041,471	1,019	1,022	1,022	+0
NEW JERSEY	3,271,773	3,252,921	8,822	370	368	-2
NEW MEXICO	148,310	148,310	1,300	114	114	+0
NEW YORK	16,510,984	14,514,325	21,799	757	665	-92
NORTH CAROLINA	1,213,386	1,213,386	5,880	206	206	+0
NORTH DAKOTA	77,596	73,300	606	128	120	-8
OHIO	7,270,155	7,192,173	13,202	550	544	-6
OKLAHOMA	524,317	516,837	2,942	178	175	-3
OREGON	1,486,679	1,382,726	2,943	505	469	-36
PENNSYLVANIA	3,806,422	3,806,422	13,342	285	285	+0
RHODE ISLAND	772,082	722,882	1,134	680	637	-43
SOUTH CAROLINA	957,225	957,225	3,023	316	316	+0
SOUTH DAKOTA	137,654	137,654	643	214	214	+0
TENNESSEE	1,279,448	1,279,448	4,800	266	266	+0
TEXAS	2,881,265	2,814,460	15,351	187	183	-4
UTAH	270,375	270,375	1,509	179	179	+0
VERMONT	392,592	388,850	536	732	725	-7
VIRGINIA	1,757,827	1,583,252	5,956	295	265	-30
WASHINGTON	2,437,534	1,999,294	4,194	581	476	-105
WEST VIRGINIA	2,184,400	2,184,400	1,845	1,183	1,183	+0
WISCONSIN	2,194,717	1,976,821	5,218	420	378	-42
WYOMING	67,338	67,338	600	112	112	+0
AMERICAN SAMOA	59,940	59,940	40	1,498	1,498	+0
GUAM	94,204	94,204	275	342	342	+0
PUERTO RICO	1,009,368	898,507	3,786	266	237	-29
PAC. TR. TERR.	150,217	150,217	205	732	732	+0
VIRGIN ISLANDS	52,456	45,805	116	452	394	-58
U.S. TOTALS	100,422,742	95,902,490	259,107	387	370	-17

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FEBRUARY 10, 1977
TABLE 26

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS FOR CONSTRUCTION OF PUBLICLY-OWNED WASTEWATER TREATMENT FACILITIES

THOUSANDS OF 1976 DOLLARS
CATEGORIES I, II AND IV B

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE
ALABAMA	590,823	590,823	+0	1.0986	1.1327	+0.0341
ALASKA	253,801	253,801	+0	0.4719	0.4866	+0.0147
ARIZONA	353,265	353,265	+0	0.6569	0.6773	+0.0204
ARKANSAS	343,010	341,833	-1,177	0.6378	0.6553	+0.0175
CALIFORNIA	4,220,814	4,220,309	-505	7.8488	8.0914	+0.2426
COLORADO	429,018	427,839	-1,179	0.7977	0.8202	+0.0225
CONNECTICUT	395,023	376,756	-18,267	0.7345	0.7223	-0.0121
DELAWARE	192,355	192,355	+0	0.3576	0.3687	+0.0111
DIST. OF COLUM.	19,753	19,753	+0	0.0367	0.0378	+0.0011
FLORIDA	2,484,636	2,484,636	+0	4.6203	4.7637	+0.1434
GEORGIA	1,081,067	1,081,067	+0	2.0103	2.0726	+0.0623
HAWAII	634,373	623,976	-10,397	1.1796	1.1963	+0.0167
IDAHO	319,002	317,190	-1,812	0.5932	0.6081	+0.0149
ILLINOIS	2,286,322	2,285,556	-766	4.2515	4.3820	+0.1305
INDIANA	1,256,904	1,213,627	-43,277	2.3372	2.3268	-0.0103
IOWA	845,593	795,990	-49,603	1.5724	1.5261	-0.0462
KANSAS	613,339	459,347	-153,992	1.1405	0.8806	-0.2598
KENTUCKY	859,305	859,305	+0	1.5979	1.6475	+0.0496
LOUISIANA	497,785	497,785	+0	0.9256	0.9543	+0.0287
MAINE	278,388	278,388	+0	0.5176	0.5337	+0.0161
MARYLAND	1,654,145	1,654,146	+0	3.0759	3.1714	+0.0955
MASSACHUSETTS	1,625,728	1,625,728	+0	3.0231	3.1169	+0.0938
MICHIGAN	1,908,107	1,903,842	-4,265	3.5482	3.6501	+0.1019
MINNESOTA	1,181,731	1,181,731	+0	2.1974	2.2656	+0.0682
MISSISSIPPI	585,512	585,512	+0	1.0887	1.1225	+0.0338
MISSOURI	1,119,255	1,119,255	+0	2.0813	2.1459	+0.0646
MONTANA	101,373	101,373	+0	0.1885	0.1943	+0.0058
NEBRASKA	244,549	244,299	-250	0.4547	0.4683	+0.0136
NEVADA	221,715	221,715	+0	0.4122	0.4250	+0.0128
NEW HAMPSHIRE	506,808	506,808	+0	0.9424	0.9716	+0.0292
NEW JERSEY	2,098,508	2,097,511	-997	3.9022	4.0214	+0.1192
NEW MEXICO	119,992	119,992	+0	0.2231	0.2300	+0.0069
NEW YORK	7,076,406	5,928,637	-1,147,769	13.1589	11.3667	-1.7921
NORTH CAROLINA	1,007,924	1,007,924	+0	1.8742	1.9324	+0.0582
NORTH DAKOTA	57,616	53,320	-4,296	0.1071	0.1022	-0.0048
OHIO	3,466,889	3,464,454	-2,435	6.4468	6.6422	+0.1954
OKLAHOMA	405,913	404,846	-1,067	0.7548	0.7761	+0.0213
OREGON	778,313	778,313	+0	1.4473	1.4922	+0.0449
PENNSYLVANIA	2,001,200	2,001,200	+0	3.7213	3.8368	+0.1155
RHODE ISLAND	263,070	218,990	-44,080	0.4891	0.4198	-0.0692
SOUTH CAROLINA	749,950	749,950	+0	1.3945	1.4378	+0.0433
SOUTH DAKOTA	128,663	128,663	+0	0.2392	0.2466	+0.0074
TENNESSEE	735,783	735,783	+0	1.3682	1.4106	+0.0424
TEXAS	2,081,840	2,064,261	-17,579	3.8712	3.9577	+0.0865
UTAH	193,154	193,154	+0	0.3591	0.3703	+0.0112
VERMONT	141,947	141,468	-479	0.2639	0.2712	+0.0073
VIRGINIA	1,123,440	1,112,681	-10,759	2.0891	2.1333	+0.0442
WASHINGTON	1,045,457	1,020,757	-24,700	1.9440	1.9570	+0.0130
WEST VIRGINIA	1,123,777	1,123,777	+0	2.0897	2.1545	+0.0648
WISCONSIN	1,061,893	1,061,783	-110	1.9746	2.0357	+0.0611
WYOMING	64,789	64,789	+0	0.1204	0.1242	+0.0038
AMERICAN SAMOA	50,338	50,338	+0	0.0936	0.0965	+0.0029
GUAM	40,126	40,126	+0	0.0746	0.0769	+0.0023
PUERTO RICO	712,904	640,553	-72,351	1.3256	1.2281	-0.0974
PAC. TR. TERR.	114,499	114,499	+0	0.2129	0.2195	+0.0066
VIRGIN ISLANDS	28,373	21,722	-6,651	0.0527	0.0416	-0.0110
U.S. TOTALS	53,776,264	52,157,501	-1,618,763	100.0000	100.0000	+0.0000

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FEBRUARY 18, 1977
TABLE 27

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS
FOR CONSTRUCTION OF TREATMENT PLANTS
THOUSANDS OF 1976 DOLLARS
CATEGORIES I AND II

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE
ALABAMA	418,737	418,737	+0	1.1879	1.2231	+0.0352
ALASKA	135,213	135,213	+0	0.3835	0.3949	+0.0114
ARIZONA	222,047	222,047	+0	0.6299	0.6486	+0.0187
ARKANSAS	286,960	285,783	-1,177	0.8140	0.8347	+0.0207
CALIFORNIA	3,372,859	3,372,766	-93	9.5685	9.8519	+0.2834
COLORADO	391,898	390,719	-1,179	1.1117	1.1413	+0.0296
CONNECTICUT	209,127	193,072	-16,055	0.5932	0.5639	-0.0292
DELAWARE	95,498	95,498	+0	0.2709	0.2789	+0.0080
DIST. OF COLUM.	12,486	12,486	+0	0.0354	0.0364	+0.0010
FLORIDA	1,495,300	1,495,300	+0	4.2420	4.3678	+0.1258
GEORGIA	706,069	706,089	+0	2.0031	2.0625	+0.0594
HAWAII	331,532	320,894	-10,638	0.9405	0.9373	-0.0031
IDAHO	180,701	178,889	-1,812	0.5126	0.5225	+0.0099
ILLINOIS	1,827,094	1,826,519	-575	5.1833	5.3353	+0.1520
INDIANA	854,849	833,395	-21,454	2.4251	2.4343	+0.0092
IOWA	647,077	647,077	+0	1.8357	1.8901	+0.0544
KANSAS	425,482	296,992	-128,490	1.2070	0.8675	-0.3394
KENTUCKY	474,097	474,097	+0	1.3449	1.3848	+0.0399
LOUISIANA	390,707	390,707	+0	1.1084	1.1412	+0.0328
MAINE	135,945	135,945	+0	0.3856	0.3970	+0.0114
MARYLAND	1,209,406	1,209,406	+0	3.4310	3.5327	+0.1017
MASSACHUSETTS	992,722	992,722	+0	2.8162	2.8997	+0.0835
MICHIGAN	934,642	930,377	-4,265	2.6515	2.7176	+0.0661
MINNESOTA	874,630	874,630	+0	2.4812	2.5548	+0.0736
MISSISSIPPI	435,874	435,874	+0	1.2365	1.2732	+0.0367
MISSOURI	666,721	666,721	+0	1.8914	1.9475	+0.0561
MONTANA	58,971	58,971	+0	0.1672	0.1722	+0.0050
NEBRASKA	187,456	187,206	-250	0.5318	0.5468	+0.0150
NEVADA	170,032	170,032	+0	0.4823	0.4966	+0.0143
NEW HAMPSHIRE	248,084	248,084	+0	0.7037	0.7246	+0.0209
NEW JERSEY	1,508,652	1,518,456	+9,804	4.2799	4.4354	+0.1555
NEW MEXICO	99,133	99,133	+0	0.2812	0.2895	+0.0083
NEW YORK	4,550,458	3,772,935	-777,523	12.9093	11.0208	-1.8884
NORTH CAROLINA	594,967	594,967	+0	1.6878	1.7379	+0.0501
NORTH DAKOTA	42,868	39,657	-3,231	0.1216	0.1158	-0.0057
OHIO	2,091,191	2,091,191	+0	5.9325	6.1084	+0.1759
OKLAHOMA	289,061	287,994	-1,067	0.8200	0.8412	+0.0212
OREGON	407,970	407,970	+0	1.1573	1.1916	+0.0343
PENNSYLVANIA	1,515,793	1,515,793	+0	4.3002	4.4276	+0.1274
RHODE ISLAND	137,328	136,248	-1,080	0.3895	0.3979	+0.0084
SOUTH CAROLINA	407,679	407,679	+0	1.1565	1.1908	+0.0343
SOUTH DAKOTA	110,490	110,490	+0	0.3134	0.3227	+0.0093
TENNESSEE	483,308	483,308	+0	1.3711	1.4117	+0.0406
TEXAS	1,401,221	1,383,642	-17,579	3.9751	4.0416	+0.0665
UTAH	167,997	167,997	+0	0.4765	0.4907	+0.0142
VERMONT	114,076	113,597	-479	0.3236	0.3318	+0.0082
VIRGINIA	710,508	710,418	-90	2.0156	2.0751	+0.0595
WASHINGTON	645,860	645,860	+0	1.8322	1.8865	+0.0543
WEST VIRGINIA	347,579	347,579	+0	0.9860	1.0152	+0.0292
WISCONSIN	580,727	580,617	-110	1.6474	1.6960	+0.0486
WYOMING	60,093	60,093	+0	0.1704	0.1755	+0.0051
AMERICAN SAMOA	28,259	28,259	+0	0.0801	0.0825	+0.0024
GUAM	23,108	23,108	+0	0.0655	0.0674	+0.0019
PUERTO RICO	404,527	371,653	-32,874	1.1476	1.0856	-0.0619
PAC. TR. TERR.	110,970	110,970	+0	0.3148	0.3241	+0.0093
VIRGIN ISLANDS	23,205	18,588	-4,617	0.0658	0.0542	-0.0115
U.S. TOTALS	35,249,284	34,234,450	-1,014,834	100.0000	100.0000	+0.0000

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FEBRUARY 10, 1977
TABLE 28

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS FOR IMPROVEMENT OF TREATMENT PLANTS TO ACHIEVE SECONDARY LEVEL

THOUSANDS OF 1976 DOLLARS
CATEGORY I

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE
ALABAMA	164,311	164,311	+0	1.2448	1.2448	+0.0000
ALASKA	110,213	110,213	+0	0.8349	0.8349	+0.0000
ARIZONA	216,244	216,244	+0	1.6382	1.6382	+0.0000
ARKANSAS	78,115	78,115	+0	0.5917	0.5917	+0.0000
CALIFORNIA	2,187,966	2,187,873	-93	16.5759	16.5759	+0.0000
COLORADO	91,373	90,483	-890	0.6922	0.6922	+0.0000
CONNECTICUT	145,157	129,102	-16,055	1.0996	1.0996	+0.0000
DELAWARE	720	720	+0	0.0054	0.0054	+0.0000
DIST. OF COLUM.	0	0	+0	0.0000	0.0000	+0.0000
FLORIDA	286,261	286,261	+0	2.1686	2.1686	+0.0000
GEORGIA	98,629	98,629	+0	0.7471	0.7471	+0.0000
HAWAII	331,532	320,894	-10,638	2.5116	2.5116	+0.0000
IDAHO	133,151	131,339	-1,812	1.0087	1.0087	+0.0000
ILLINOIS	51,034	51,034	+0	0.3866	0.3866	+0.0000
INDIANA	85,457	80,097	-5,360	0.6474	0.6474	+0.0000
IOWA	236,725	236,725	+0	1.7934	1.7934	+0.0000
KANSAS	299,932	271,671	-28,261	2.2722	2.2722	+0.0000
KENTUCKY	46,746	46,746	+0	0.3541	0.3541	+0.0000
LOUISIANA	314,990	314,990	+0	2.3863	2.3863	+0.0000
MAINE	119,586	119,586	+0	0.9059	0.9059	+0.0000
MARYLAND	7,588	7,588	+0	0.0574	0.0574	+0.0000
MASSACHUSETTS	705,498	705,498	+0	5.3448	5.3448	+0.0000
MICHIGAN	29,100	29,100	+0	0.2204	0.2204	+0.0000
MINNESOTA	0	0	+0	0.0000	0.0000	+0.0000
MISSISSIPPI	65,291	65,291	+0	0.4946	0.4946	+0.0000
MISSOURI	659,640	659,640	+0	4.9974	4.9974	+0.0000
MONTANA	43,395	43,395	+0	0.3287	0.3287	+0.0000
NEBRASKA	163,282	163,032	-250	1.2370	1.2370	+0.0000
NEVADA	51,348	51,348	+0	0.3890	0.3890	+0.0000
NEW HAMPSHIRE	169,809	169,809	+0	1.2864	1.2864	+0.0000
NEW JERSEY	796,281	803,824	+7,543	6.0325	6.0325	+0.0000
NEW MEXICO	66,159	66,159	+0	0.5012	0.5012	+0.0000
NEW YORK	2,679,884	2,531,814	-148,070	20.3026	20.3026	+0.0000
NORTH CAROLINA	72,882	72,882	+0	0.5521	0.5521	+0.0000
NORTH DAKOTA	42,683	39,452	-3,231	0.3233	0.3233	+0.0000
OHIO	28,829	28,829	+0	0.2183	0.2183	+0.0000
OKLAHOMA	9,268	8,854	-414	0.0702	0.0702	+0.0000
OREGON	93,342	93,342	+0	0.7071	0.7071	+0.0000
PENNSYLVANIA	258,124	258,124	+0	1.9555	1.9555	+0.0000
RHODE ISLAND	57,294	57,294	+0	0.4340	0.4340	+0.0000
SOUTH CAROLINA	180,832	180,832	+0	1.3699	1.3699	+0.0000
SOUTH DAKOTA	23,521	23,521	+0	0.1781	0.1781	+0.0000
TENNESSEE	89,897	89,897	+0	0.6810	0.6810	+0.0000
TEXAS	8,462	8,462	+0	0.0640	0.0640	+0.0000
UTAH	61	61	+0	0.0004	0.0004	+0.0000
VERMONT	46,115	45,636	-479	0.3493	0.3493	+0.0000
VIRGINIA	403,143	403,053	-90	3.0541	3.0541	+0.0000
WASHINGTON	406,843	406,843	+0	3.0822	3.0822	+0.0000
WEST VIRGINIA	260,791	260,791	+0	1.9757	1.9757	+0.0000
WISCONSIN	165,836	165,836	+0	1.2563	1.2563	+0.0000
WYOMING	60,093	60,093	+0	0.4552	0.4552	+0.0000
AMERICAN SAMOA	28,259	28,259	+0	0.2140	0.2140	+0.0000
GUAM	23,108	23,108	+0	0.1750	0.1750	+0.0000
PUERTO RICO	384,337	352,518	-31,819	2.9117	2.9117	+0.0000
PAC. TR. TERR.	110,970	110,970	+0	0.8406	0.8406	+0.0000
VIRGIN ISLANDS	9,530	4,913	-4,617	0.0721	0.0721	+0.0000
U.S. TOTALS	13,199,637	12,955,101	-244,536	100.0000	100.0000	+0.0000

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TABLE 29

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS
REPORTED TO ACHIEVE MORE STRINGENT TREATEMENT LEVELS
THOUSANDS OF 1976 DOLLARS
CATEGORY II

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE
ALABAMA	254,426	254,426	+0	1.1538	1.1956	+0.0418
ALASKA	25,000	25,000	+0	0.1133	0.1174	+0.0041
ARIZONA	5,803	5,803	+0	0.0263	0.0272	+0.0009
ARKANSAS	208,845	207,668	-1,177	0.9471	0.9759	+0.0288
CALIFORNIA	1,184,893	1,184,893	+0	5.3737	5.5682	+0.1945
COLORADO	300,525	300,236	-289	1.3629	1.4109	+0.0480
CONNECTICUT	63,970	63,970	+0	0.2901	0.3006	+0.0105
DELAWARE	94,778	94,778	+0	0.4298	0.4453	+0.0155
DIST. OF COLUM.	12,486	12,486	+0	0.0566	0.0586	+0.0020
FLORIDA	1,209,039	1,209,039	+0	5.4832	5.6817	+0.1985
GEORGIA	607,460	607,460	+0	2.7549	2.8546	+0.0997
HAWAII	0	0	+0	0.0000	0.0000	+0.0000
IDAHO	47,550	47,550	+0	0.2156	0.2234	+0.0078
ILLINOIS	1,776,060	1,775,485	-575	8.0548	8.3436	+0.2888
INDIANA	769,392	753,298	-16,094	3.4893	3.5400	+0.0507
IOWA	410,352	410,352	+0	1.8610	1.9283	+0.0673
KANSAS	125,550	25,321	-100,229	0.5693	0.1189	-0.4503
KENTUCKY	427,351	427,351	+0	1.9381	2.0082	+0.0701
LOUISIANA	75,717	75,717	+0	0.3433	0.3558	+0.0125
MAINE	16,359	16,359	+0	0.0741	0.0768	+0.0027
MARYLAND	1,201,818	1,201,818	+0	5.4505	5.6478	+0.1973
MASSACHUSETTS	287,224	287,224	+0	1.3026	1.3497	+0.0471
MICHIGAN	905,542	901,277	-4,265	4.1068	4.2354	+0.1286
MINNESOTA	874,630	874,630	+0	3.9666	4.1102	+0.1436
MISSISSIPPI	370,583	370,583	+0	1.6806	1.7415	+0.0609
MISSOURI	7,081	7,081	+0	0.0321	0.0332	+0.0011
MONTANA	15,576	15,576	+0	0.0706	0.0731	+0.0025
NEBRASKA	24,174	24,174	+0	0.1096	0.1135	+0.0039
NEVADA	118,684	118,684	+0	0.5382	0.5577	+0.0195
NEW HAMPSHIRE	78,275	78,275	+0	0.3549	0.3678	+0.0129
NEW JERSEY	712,371	714,632	+2,261	3.2307	3.3583	+0.1276
NEW MEXICO	32,974	32,974	+0	0.1495	0.1549	+0.0054
NEW YORK	1,870,574	1,241,121	-629,453	8.4834	5.8325	-2.6509
NORTH CAROLINA	522,085	522,085	+0	2.3677	2.4534	+0.0857
NORTH DAKOTA	205	205	+0	0.0009	0.0009	+0.0000
OHIO	2,062,362	2,062,362	+0	9.3532	9.6918	+0.3386
OKLAHOMA	279,793	279,140	-653	1.2689	1.3117	+0.0428
OREGON	314,628	314,628	+0	1.4269	1.4785	+0.0516
PENNSYLVANIA	1,257,669	1,257,669	+0	5.7038	5.9102	+0.2064
RHODE ISLAND	80,034	78,954	-1,080	0.3629	0.3710	+0.0081
SOUTH CAROLINA	226,847	226,847	+0	1.0288	1.0660	+0.0372
SOUTH DAKOTA	86,969	86,969	+0	0.3944	0.4086	+0.0142
TENNESSEE	393,411	393,411	+0	1.7842	1.8487	+0.0645
TEXAS	1,392,759	1,375,180	-17,579	6.3164	6.4624	+0.1460
UTAH	167,936	167,936	+0	0.7616	0.7891	+0.0275
VERMONT	67,961	67,961	+0	0.3082	0.3193	+0.0111
VIRGINIA	307,365	307,365	+0	1.3939	1.4444	+0.0505
WASHINGTON	239,017	239,017	+0	1.0839	1.1232	+0.0393
WEST VIRGINIA	86,788	86,788	+0	0.3936	0.4078	+0.0142
WISCONSIN	414,891	414,781	-110	1.8816	1.9492	+0.0676
WYOMING	0	0	+0	0.0000	0.0000	+0.0000
AMERICAN SAMOA	0	0	+0	0.0000	0.0000	+0.0000
GUAM	0	0	+0	0.0000	0.0000	+0.0000
PUERTO RICO	20,190	19,135	-1,055	0.0915	0.0899	-0.0015
PAC. TR. TERR.	0	0	+0	0.0000	0.0000	+0.0000
VIRGIN ISLANDS	13,675	13,675	+0	0.0620	0.0642	+0.0022
U.S. TOTALS	22,049,647	21,279,349	-770,298	100.0000	100.0000	+0.0000

A- 16.29

FEBRUARY 10, 1977
TABLE 30

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS FOR CORRECTION OF INFILTRATION/INFLOW CONDITIONS
THOUSANDS OF 1976 DOLLARS
CATEGORY III A

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE
ALABAMA	65,989	65,989	+0	1.7522	2.1871	+0.4349
ALASKA	1,642	1,642	+0	0.0436	0.0544	+0.0108
ARIZONA	1,347	1,347	+0	0.0357	0.0446	+0.0089
ARKANSAS	21,219	21,219	+0	0.5634	0.7032	+0.1398
CALIFORNIA	90,510	90,510	+0	2.4034	2.9998	+0.5964
COLORADO	29,052	20,414	-8,638	0.7714	0.6765	-0.0947
CONNECTICUT	31,273	31,273	+0	0.8304	1.0365	+0.2061
DELAWARE	3,803	3,803	+0	0.1009	0.1260	+0.0251
DIST. OF COLUM.	58,000	58,000	+0	1.5401	1.9223	+0.3822
FLORIDA	95,340	95,340	+0	2.5316	3.1599	+0.6283
GEORGIA	41,586	41,586	+0	1.1042	1.3783	+0.2741
HAWAII	117	117	+0	0.0031	0.0038	+0.0007
IDAHO	16,531	16,531	+0	0.4389	0.5478	+0.1089
ILLINOIS	103,164	103,164	+0	2.7394	3.4192	+0.6798
INDIANA	207,374	201,271	-6,103	5.5066	6.6709	+1.1643
IOWA	56,157	56,157	+0	1.4912	1.8612	+0.3700
KANSAS	37,943	33,749	-4,194	1.0075	1.1185	+0.1110
KENTUCKY	64,579	64,579	+0	1.7148	2.1404	+0.4256
LOUISIANA	109,968	109,968	+0	2.9201	3.6448	+0.7247
MAINE	14,486	14,486	+0	0.3846	0.4801	+0.0955
MARYLAND	21,607	21,607	+0	0.5737	0.7161	+0.1424
MASSACHUSETTS	16,865	16,865	+0	0.4478	0.5589	+0.1111
MICHIGAN	77,975	73,019	-4,956	2.0705	2.4201	+0.3496
MINNESOTA	24,705	24,705	+0	0.6560	0.8188	+0.1628
MISSISSIPPI	109,928	109,928	+0	2.9190	3.6434	+0.7244
MISSOURI	19,187	19,187	+0	0.5094	0.6359	+0.1265
MONTANA	6,681	6,481	-200	0.1774	0.2147	+0.0373
NEBRASKA	4,934	4,934	+0	0.1310	0.1635	+0.0325
NEVADA	2,207	2,207	+0	0.0586	0.0731	+0.0145
NEW HAMPSHIRE	6,711	6,711	+0	0.1782	0.2224	+0.0442
NEW JERSEY	140,528	125,117	-15,411	3.7316	4.1469	+0.4153
NEW MEXICO	4,249	4,249	+0	0.1128	0.1408	+0.0280
NEW YORK	148,725	148,269	-456	3.9492	4.9142	+0.9650
NORTH CAROLINA	57,695	57,695	+0	1.5320	1.9122	+0.3802
NORTH DAKOTA	284	284	+0	0.0075	0.0094	+0.0019
OHIO	629,831	629,831	+0	16.7246	20.8753	+4.1507
OKLAHOMA	33,012	32,968	-44	0.8766	1.0926	+0.2160
OREGON	219,973	116,020	-103,953	5.8411	3.8454	-1.9956
PENNSYLVANIA	33,253	33,253	+0	0.8830	1.1021	+0.2191
RHODE ISLAND	13,632	8,512	-5,120	0.3619	0.2821	-0.0797
SOUTH CAROLINA	38,400	38,400	+0	1.0198	1.2729	+0.2531
SOUTH DAKOTA	4,567	4,567	+0	0.1212	0.1513	+0.0301
TENNESSEE	52,520	52,520	+0	1.3946	1.7407	+0.3461
TEXAS	228,017	178,791	-49,226	6.0547	5.9259	-0.1287
UTAH	42,221	42,221	+0	1.1211	1.3993	+0.2782
VERMONT	4,718	1,655	-3,063	0.1252	0.0548	-0.0703
VIRGINIA	156,374	29,666	-126,708	4.1523	0.9832	-3.1690
WASHINGTON	521,393	107,853	-413,540	13.8451	3.5747	-10.2703
WEST VIRGINIA	7,392	7,392	+0	0.1962	0.2449	+0.0487
WISCONSIN	72,527	72,527	+0	1.9258	2.4038	+0.4780
WYOMING	1,875	1,875	+0	0.0497	0.0621	+0.0124
AMERICAN SAMOA	0	0	+0	0.0000	0.0000	+0.0000
GUAM	465	465	+0	0.0123	0.0154	+0.0031
PUERTO RICO	13,265	6,088	-7,177	0.3522	0.2017	-0.1504
PAC. TR. TERR.	0	0	+0	0.0000	0.0000	+0.0000
VIRGIN ISLANDS	87	87	+0	0.0023	0.0028	+0.0005
U.S. TOTALS	3,765,891	3,017,102	-748,789	100.0000	100.0000	+0.0000

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FEBRUARY 10, 1977
TABLE 31

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS FOR CORRECTION OF MAJOR REHABILITATION AND REPLACEMENT

THOUSANDS OF 1976 DOLLARS
CATEGORY III B

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE
ALABAMA	2,570	2,570	+0	0.0448	0.0468	+0.0020
ALASKA	67	67	+0	0.0011	0.0012	+0.0001
ARIZONA	0	0	+0	0.0000	0.0000	+0.0000
ARKANSAS	0	0	+0	0.0000	0.0000	+0.0000
CALIFORNIA	9,343	9,343	+0	0.1629	0.1702	+0.0073
COLORADO	237,621	237,621	+0	4.1448	4.3309	+0.1861
CONNECTICUT	10,034	10,034	+0	0.1750	0.1828	+0.0078
DELAWARE	1,468	1,468	+0	0.0256	0.0267	+0.0011
DIST. OF COLUM.	0	0	+0	0.0000	0.0000	+0.0000
FLORIDA	6,500	6,500	+0	0.1133	0.1184	+0.0051
GEORGIA	481	481	+0	0.0083	0.0087	+0.0004
HAWAII	0	0	+0	0.0000	0.0000	+0.0000
IDAHO	724	724	+0	0.0126	0.0131	+0.0005
ILLINOIS	60,272	58,081	-2,191	1.0513	1.0585	+0.0072
INDIANA	65,619	57,545	-8,074	1.1445	1.0488	-0.0956
IOWA	0	0	+0	0.0000	0.0000	+0.0000
KANSAS	1,186	819	-367	0.0206	0.0149	-0.0056
KENTUCKY	0	0	+0	0.0000	0.0000	+0.0000
LOUISIANA	2,257	2,257	+0	0.0393	0.0411	+0.0018
MAINE	3,722	3,722	+0	0.0649	0.0678	+0.0029
MARYLAND	1,128,920	1,128,920	+0	19.6918	20.5761	+0.8843
MASSACHUSETTS	46,715	46,715	+0	0.8148	0.8514	+0.0366
MICHIGAN	582,956	578,444	-4,512	10.1685	10.5429	+0.3744
MINNESOTA	10,205	10,205	+0	0.1780	0.1859	+0.0079
MISSISSIPPI	2,100	2,100	+0	0.0366	0.0382	+0.0016
MISSOURI	0	0	+0	0.0000	0.0000	+0.0000
MONTANA	1,165	1,165	+0	0.0203	0.0212	+0.0009
NEBRASKA	0	0	+0	0.0000	0.0000	+0.0000
NEVADA	22	22	+0	0.0003	0.0003	+0.0000
NEW HAMPSHIRE	3,988	3,988	+0	0.0695	0.0726	+0.0031
NEW JERSEY	27,842	27,842	+0	0.4856	0.5074	+0.0218
NEW MEXICO	784	784	+0	0.0136	0.0142	+0.0006
NEW YORK	2,648,452	2,525,667	-122,785	46.1971	46.0338	-0.1632
NORTH CAROLINA	0	0	+0	0.0000	0.0000	+0.0000
NORTH DAKOTA	1,358	1,358	+0	0.0236	0.0247	+0.0011
OHIO	432,626	357,393	-75,233	7.5463	6.5139	-1.0323
OKLAHOMA	12,986	12,837	-149	0.2265	0.2339	+0.0074
OREGON	34,834	34,834	+0	0.6076	0.6348	+0.0272
PENNSYLVANIA	0	0	+0	0.0000	0.0000	+0.0000
RHODE ISLAND	200	200	+0	0.0034	0.0036	+0.0002
SOUTH CAROLINA	0	0	+0	0.0000	0.0000	+0.0000
SOUTH DAKOTA	151	151	+0	0.0026	0.0027	+0.0001
TENNESSEE	0	0	+0	0.0000	0.0000	+0.0000
TEXAS	61,818	61,818	+0	1.0782	1.1267	+0.0485
UTAH	0	0	+0	0.0000	0.0000	+0.0000
VERMONT	6,055	5,855	-200	0.1056	0.1067	+0.0011
VIRGINIA	21,187	1,080	-20,107	0.3695	0.0196	-0.3498
WASHINGTON	136,647	136,647	+0	2.3835	2.4905	+0.1070
WEST VIRGINIA	69	69	+0	0.0012	0.0012	+0.0000
WISCONSIN	143,512	143,512	+0	2.5032	2.6156	+0.1124
WYOMING	0	0	+0	0.0000	0.0000	+0.0000
AMERICAN SAMOA	2,000	2,000	+0	0.0348	0.0364	+0.0016
GUAM	0	0	+0	0.0000	0.0000	+0.0000
PUERTO RICO	24,476	11,704	-12,772	0.4269	0.2133	-0.2135
PAC. TR. TERR.	0	0	+0	0.0000	0.0000	+0.0000
VIRGIN ISLANDS	0	0	+0	0.0000	0.0000	+0.0000
U.S. TOTALS	5,732,932	5,486,542	-246,390	100.0000	100.0000	+0.0000

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FEBRUARY 10, 1977
TABLE 32

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS FOR CONSTRUCTION OF ELIGIBLE NEW COLLECTORS AND APPURTENANCES

THOUSANDS OF 1976 DOLLARS
CATEGORY IV A

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE
ALABAMA	206,354	206,354	+0	1.1599	1.2153	+0.0553
ALASKA	68,829	68,829	+0	0.3868	0.4052	+0.0184
ARIZONA	103,956	103,956	+0	0.5843	0.6122	+0.0278
ARKANSAS	107,959	107,959	+0	0.6068	0.6358	+0.0289
CALIFORNIA	838,893	838,893	+0	4.7154	4.9406	+0.2251
COLORADO	8,118	8,118	+0	0.0456	0.0478	+0.0021
CONNECTICUT	470,055	467,916	-2,139	2.6422	2.7557	+0.1135
DELAWARE	32,564	32,564	+0	0.1830	0.1917	+0.0087
DIST. OF COLUM.	0	0	+0	0.0000	0.0000	+0.0000
FLORIDA	1,139,643	1,139,643	+0	6.4060	6.7118	+0.3058
GEORGIA	211,122	211,122	+0	1.1867	1.2433	+0.0566
HAWAII	128,988	128,573	-415	0.7250	0.7572	+0.0321
IDAHO	96,108	94,052	-2,056	0.5402	0.5539	+0.0136
ILLINOIS	344,156	333,499	-10,657	1.9345	1.9641	+0.0295
INDIANA	482,782	458,843	-23,939	2.7137	2.7023	-0.0114
IOWA	92,935	92,935	+0	0.5223	0.5473	+0.0249
KANSAS	78,425	77,172	-1,253	0.4408	0.4544	+0.0136
KENTUCKY	226,977	226,977	+0	1.2758	1.3367	+0.0609
LOUISIANA	97,095	97,095	+0	0.5457	0.5718	+0.0260
MAINE	183,441	183,441	+0	1.0311	1.0803	+0.0492
MARYLAND	60,748	60,748	+0	0.3414	0.3577	+0.0162
MASSACHUSETTS	834,956	834,956	+0	4.6933	4.9174	+0.2240
MICHIGAN	1,230,494	1,230,494	+0	6.9167	7.2469	+0.3302
MINNESOTA	170,402	170,402	+0	0.9578	1.0035	+0.0457
MISSISSIPPI	52,785	52,785	+0	0.2966	0.3108	+0.0141
MISSOURI	159,597	159,597	+0	0.8971	0.9399	+0.0428
MONTANA	17,883	17,883	+0	0.1005	0.1053	+0.0047
NEBRASKA	14,423	14,423	+0	0.0810	0.0849	+0.0038
NEVADA	26,624	26,624	+0	0.1496	0.1567	+0.0071
NEW HAMPSHIRE	216,004	216,004	+0	1.2141	1.2721	+0.0579
NEW JERSEY	399,975	397,531	-2,444	2.2482	2.3412	+0.0929
NEW MEXICO	23,285	23,285	+0	0.1308	0.1371	+0.0062
NEW YORK	3,973,975	3,248,326	-725,649	22.3381	19.1309	-3.2071
NORTH CAROLINA	147,767	147,767	+0	0.8306	0.8702	+0.0396
NORTH DAKOTA	5,501	5,501	+0	0.0309	0.0323	+0.0014
OHIO	975,197	974,883	-314	5.4816	5.7415	+0.2598
OKLAHOMA	72,406	66,186	-6,220	0.4069	0.3897	-0.0171
OREGON	243,078	243,078	+0	1.3663	1.4315	+0.0652
PENNSYLVANIA	951,464	951,464	+0	5.3482	5.6036	+0.2553
RHODE ISLAND	230,972	230,972	+0	1.2983	1.3602	+0.0619
SOUTH CAROLINA	168,867	168,867	+0	0.9492	0.9945	+0.0453
SOUTH DAKOTA	3,095	3,095	+0	0.0173	0.0182	+0.0008
TENNESSEE	307,765	307,765	+0	1.7299	1.8125	+0.0825
TEXAS	460,807	460,807	+0	2.5902	2.7138	+0.1236
UTAH	35,000	35,000	+0	0.1967	0.2061	+0.0093
VERMONT	78,150	78,150	+0	0.4392	0.4602	+0.0209
VIRGINIA	211,879	194,878	-17,001	1.1909	1.1477	-0.0432
WASHINGTON	392,501	392,501	+0	2.2062	2.3116	+0.1053
WEST VIRGINIA	626,601	626,601	+0	3.5221	3.6903	+0.1681
WISCONSIN	421,785	421,785	+0	2.3708	2.4840	+0.1131
WYOMING	674	674	+0	0.0037	0.0039	+0.0001
AMERICAN SAMOA	7,602	7,602	+0	0.0427	0.0447	+0.0020
GUAM	31,011	31,011	+0	0.1743	0.1826	+0.0083
PUERTO RICO	258,723	240,162	-18,561	1.4542	1.4144	-0.0398
PAC. TR. TERR.	35,718	35,718	+0	0.2007	0.2103	+0.0095
VIRGIN ISLANDS	23,996	23,996	+0	0.1348	0.1413	+0.0064
U.S. TOTALS	17,790,110	16,979,462	-810,648	100.0000	100.0000	+0.0000

A-16.32

FEBRUARY 10, 1977
TABLE 33

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS
FOR CONSTRUCTION OF NEW INTERCEPTORS AND APPURTENANCES
THOUSANDS OF 1976 DOLLARS
CATEGORY IV B

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE
ALABAMA	172,086	172,086	+0	0.9288	0.9601	+0.0313
ALASKA	118,588	118,588	+0	0.6400	0.6616	+0.0216
ARIZONA	131,218	131,218	+0	0.7082	0.7321	+0.0239
ARKANSAS	56,050	56,050	+0	0.3025	0.3127	+0.0102
CALIFORNIA	847,955	847,543	-412	4.5768	4.7287	+0.1519
COLORADO	37,120	37,120	+0	0.2003	0.2070	+0.0067
CONNECTICUT	185,896	183,684	-2,212	1.0033	1.0248	+0.0215
DELAWARE	96,857	96,857	+0	0.5227	0.5403	+0.0176
DIST. OF COLUM.	7,267	7,267	+0	0.0392	0.0405	+0.0013
FLORIDA	989,336	989,336	+0	5.3399	5.5198	+0.1799
GEORGIA	374,978	374,978	+0	2.0239	2.0921	+0.0682
HAWAII	302,841	303,082	+241	1.6345	1.6910	+0.0565
IDAHO	138,301	138,301	+0	0.7464	0.7716	+0.0252
ILLINOIS	459,228	459,037	-191	2.4786	2.5611	+0.0825
INDIANA	402,055	380,232	-21,823	2.1701	2.1214	-0.0486
IOWA	198,516	148,913	-49,603	1.0714	0.8308	-0.2405
KANSAS	187,857	162,355	-25,502	1.0139	0.9058	-0.1080
KENTUCKY	385,208	385,208	+0	2.0791	2.1492	+0.0701
LOUISIANA	107,078	107,078	+0	0.5779	0.5974	+0.0195
MAINE	142,443	142,443	+0	0.7688	0.7947	+0.0259
MARYLAND	444,740	444,740	+0	2.4004	2.4813	+0.0809
MASSACHUSETTS	633,006	633,006	+0	3.4166	3.5317	+0.1151
MICHIGAN	973,465	973,465	+0	5.2543	5.4313	+0.1770
MINNESOTA	307,101	307,101	+0	1.6575	1.7134	+0.0559
MISSISSIPPI	149,638	149,638	+0	0.8076	0.8348	+0.0272
MISSOURI	452,534	452,534	+0	2.4425	2.5248	+0.0823
MONTANA	42,402	42,402	+0	0.2288	0.2365	+0.0077
NEBRASKA	57,093	57,093	+0	0.3081	0.3185	+0.0104
NEVADA	51,683	51,683	+0	0.2789	0.2883	+0.0094
NEW HAMPSHIRE	258,724	258,724	+0	1.3964	1.4435	+0.0471
NEW JERSEY	589,856	579,055	-10,801	3.1837	3.2307	+0.0470
NEW MEXICO	20,859	20,859	+0	0.1125	0.1163	+0.0038
NEW YORK	2,525,948	2,155,702	-370,246	13.6338	12.0275	-1.6062
NORTH CAROLINA	412,957	412,957	+0	2.2289	2.3040	+0.0751
NORTH DAKOTA	14,728	13,663	-1,065	0.0794	0.0762	-0.0031
OHIO	1,375,698	1,373,263	-2,435	7.4253	7.6619	+0.2366
OKLAHOMA	116,852	116,852	+0	0.6307	0.6519	+0.0212
OREGON	370,343	370,343	+0	1.9989	2.0662	+0.0673
PENNSYLVANIA	485,407	485,407	+0	2.6200	2.7082	+0.0882
RHODE ISLAND	125,742	82,742	-43,000	0.6786	0.4616	-0.2169
SOUTH CAROLINA	342,271	342,271	+0	1.8474	1.9096	+0.0622
SOUTH DAKOTA	18,173	18,173	+0	0.0980	0.1013	+0.0033
TENNESSEE	252,475	252,475	+0	1.3627	1.4086	+0.0459
TEXAS	680,619	680,619	+0	3.6736	3.7974	+0.1238
UTAH	25,157	25,157	+0	0.1357	0.1403	+0.0046
VERMONT	27,871	27,871	+0	0.1504	0.1554	+0.0050
VIRGINIA	412,932	402,263	-10,669	2.2288	2.2443	+0.0155
WASHINGTON	399,597	374,897	-24,700	2.1568	2.0916	-0.0650
WEST VIRGINIA	776,198	776,198	+0	4.1895	4.3307	+0.1412
WISCONSIN	481,166	481,166	+0	2.5971	2.6846	+0.0875
WYOMING	4,696	4,696	+0	0.0253	0.0261	+0.0008
AMERICAN SAMOA	22,079	22,079	+0	0.1191	0.1231	+0.0040
GUAM	17,018	17,018	+0	0.0918	0.0949	+0.0031
PUERTO RICO	308,377	268,900	-39,477	1.6644	1.5002	-0.1640
PAC. TR. TERR.	3,529	3,529	+0	0.0190	0.0196	+0.0006
VIRGIN ISLANDS	5,168	3,134	-2,034	0.0278	0.0174	-0.0103
U.S. TOTALS	18,526,980	17,923,051	-603,929	100.0000	100.0000	+0.0000

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FEBRUARY 10, 1977
TABLE 34

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS
FOR CORRECTION OF COMBINED SEWER OVERFLOWS
THOUSANDS OF 1976 DOLLARS
CATEGORY V

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE
ALABAMA	0	0	+0	0.0000	0.0000	+0.0000
ALASKA	5,010	3,019	-1,991	0.0258	0.0165	-0.0092
ARIZONA	0	0	+0	0.0000	0.0000	+0.0000
ARKANSAS	46,819	46,819	+0	0.2418	0.2563	+0.0145
CALIFORNIA	1,261,000	385,115	-875,885	6.5142	2.1088	-4.4053
COLORADO	3,368	3,368	+0	0.0173	0.0184	+0.0011
CONNECTICUT	387,317	387,317	+0	2.0008	2.1208	+0.1200
DELAWARE	39,733	39,733	+0	0.2052	0.2175	+0.0123
DIST. OF COLUM.	149,297	149,297	+0	0.7712	0.8175	+0.0463
FLORIDA	500	500	+0	0.0025	0.0027	+0.0002
GEORGIA	301,226	301,226	+0	1.5561	1.6494	+0.0933
HAWAII	0	0	+0	0.0000	0.0000	+0.0000
IDAHO	8,569	8,569	+0	0.0442	0.0469	+0.0027
ILLINOIS	2,585,508	2,585,508	+0	13.3565	14.1579	+0.8014
INDIANA	1,232,978	1,232,978	+0	6.3694	6.7516	+0.3822
IOWA	90,790	90,790	+0	0.4690	0.4971	+0.0281
KANSAS	107,961	107,961	+0	0.5577	0.5911	+0.0334
KENTUCKY	132,184	132,184	+0	0.6828	0.7238	+0.0410
LOUISIANA	0	0	+0	0.0000	0.0000	+0.0000
MAINE	482,245	482,245	+0	2.4912	2.6407	+0.1495
MARYLAND	47,460	47,460	+0	0.2451	0.2598	+0.0147
MASSACHUSETTS	876,169	876,169	+0	4.5262	4.7977	+0.2715
MICHIGAN	1,347,456	1,347,456	+0	6.9608	7.3785	+0.4177
MINNESOTA	223,397	223,397	+0	1.1540	1.2232	+0.0692
MISSISSIPPI	0	0	+0	0.0000	0.0000	+0.0000
MISSOURI	1,292,121	1,292,121	+0	6.6750	7.0754	+0.4004
MONTANA	0	0	+0	0.0000	0.0000	+0.0000
NEBRASKA	146,115	146,115	+0	0.7548	0.8000	+0.0452
NEVADA	14,664	14,664	+0	0.0757	0.0802	+0.0045
NEW HAMPSHIRE	307,960	307,960	+0	1.5909	1.6863	+0.0954
NEW JERSEY	604,920	604,920	+0	3.1249	3.3124	+0.1875
NEW MEXICO	0	0	+0	0.0000	0.0000	+0.0000
NEW YORK	2,663,426	2,663,426	+0	13.7591	14.5846	+0.8255
NORTH CAROLINA	0	0	+0	0.0000	0.0000	+0.0000
NORTH DAKOTA	12,837	12,837	+0	0.0663	0.0702	+0.0039
OHIO	1,765,612	1,765,612	+0	9.1210	9.6682	+0.5472
OKLAHOMA	0	0	+0	0.0000	0.0000	+0.0000
OREGON	210,481	210,481	+0	1.0873	1.1525	+0.0652
PENNSYLVANIA	820,505	820,505	+0	4.2386	4.4929	+0.2543
RHODE ISLAND	264,208	264,208	+0	1.3648	1.4467	+0.0819
SOUTH CAROLINA	0	0	+0	0.0000	0.0000	+0.0000
SOUTH DAKOTA	1,178	1,178	+0	0.0060	0.0064	+0.0004
TENNESSEE	183,380	183,380	+0	0.9473	1.0041	+0.0568
TEXAS	48,783	48,783	+0	0.2520	0.2671	+0.0151
UTAH	0	0	+0	0.0000	0.0000	+0.0000
VERMONT	161,722	161,722	+0	0.8354	0.8855	+0.0501
VIRGINIA	244,947	244,947	+0	1.2653	1.3412	+0.0759
WASHINGTON	341,536	341,536	+0	1.7643	1.8702	+0.1059
WEST VIRGINIA	426,561	426,561	+0	2.2035	2.3357	+0.1322
WISCONSIN	495,000	277,214	-217,786	2.5571	1.5179	-1.0391
WYOMING	0	0	+0	0.0000	0.0000	+0.0000
AMERICAN SAMOA	0	0	+0	0.0000	0.0000	+0.0000
GUAM	22,602	22,602	+0	0.1167	0.1237	+0.0070
PUERTO RICO	0	0	+0	0.0000	0.0000	+0.0000
PAC. TR. TERR.	0	0	+0	0.0000	0.0000	+0.0000
VIRGIN ISLANDS	0	0	+0	0.0000	0.0000	+0.0000
U.S. TOTALS	19,357,545	18,261,883	-1,095,662	100.0000	100.0000	+0.0000

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TABLE 35

1976 NEEDS SURVEY

COSTS AND PERCENTAGE OF NATIONAL NEEDS
FOR TREATMENT AND/OR CONTROL OF STORMWATERS
THOUSANDS OF 1976 DOLLARS
CATEGORY VI

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE	1976 STATE ESTIMATE	1976 EPA ASSESSMENT	DIFFERENCE
ALABAMA	324,263	324,263	+0	0.5664	0.5990	+0.0326
ALASKA	25,240	15,202	-10,038	0.0440	0.0280	-0.0159
ARIZONA	523,084	523,084	+0	0.9136	0.9662	+0.0526
ARKANSAS	116,067	116,067	+0	0.2027	0.2144	+0.0117
CALIFORNIA	5,298,258	5,298,258	+0	9.2546	9.7875	+0.5329
COLORADO	174,078	174,078	+0	0.3040	0.3215	+0.0175
CONNECTICUT	1,480,345	1,480,345	+0	2.5857	2.7346	+0.1489
DELAWARE	93,327	93,327	+0	0.1630	0.1723	+0.0093
DIST. OF COLUM.	114,784	114,784	+0	0.2004	0.2120	+0.0116
FLORIDA	8,237,926	8,237,926	+0	14.3895	15.2180	+0.8285
GEORGIA	485,067	485,067	+0	0.8472	0.8960	+0.0488
HAWAII	466,062	466,062	+0	0.8140	0.8609	+0.0469
IDAHO	8,855	8,855	+0	0.0154	0.0163	+0.0009
ILLINOIS	1,995,860	1,995,860	+0	3.4862	3.6869	+0.2007
INDIANA	766,155	766,155	+0	1.3382	1.4153	+0.0771
IOWA	134,712	134,712	+0	0.2353	0.2488	+0.0135
KANSAS	124,876	124,876	+0	0.2181	0.2306	+0.0125
KENTUCKY	152,933	152,933	+0	0.2671	0.2825	+0.0154
LOUISIANA	251,775	251,775	+0	0.4397	0.4650	+0.0253
MAINE	123,589	123,589	+0	0.2158	0.2282	+0.0124
MARYLAND	1,128,254	1,128,254	+0	1.9707	2.0842	+0.1135
MASSACHUSETTS	2,333,839	2,333,839	+0	4.0766	4.3113	+0.2347
MICHIGAN	1,330,395	1,330,395	+0	2.3238	2.4576	+0.1338
MINNESOTA	275,714	275,714	+0	0.4816	0.5093	+0.0277
MISSISSIPPI	211,606	211,606	+0	0.3696	0.3908	+0.0212
MISSOURI	515,075	515,075	+0	0.8997	0.9514	+0.0517
MONTANA	8,116	8,116	+0	0.0141	0.0149	+0.0008
NEBRASKA	65,407	65,407	+0	0.1142	0.1208	+0.0066
NEVADA	124,654	124,654	+0	0.2177	0.2302	+0.0125
NEW HAMPSHIRE	131,630	131,630	+0	0.2299	0.2431	+0.0132
NEW JERSEY	8,044,465	8,044,465	+0	14.0515	14.8606	+0.8091
NEW MEXICO	36,421	36,421	+0	0.0636	0.0672	+0.0036
NEW YORK	2,165,852	2,165,852	+0	3.7831	4.0009	+0.2178
NORTH CAROLINA	172,358	172,358	+0	0.3010	0.3183	+0.0173
NORTH DAKOTA	2,032	2,032	+0	0.0035	0.0037	+0.0002
OHIO	4,752,180	4,752,180	+0	8.3008	8.7787	+0.4779
OKLAHOMA	240,391	240,391	+0	0.4199	0.4440	+0.0241
OREGON	241,286	241,286	+0	0.4214	0.4457	+0.0243
PENNSYLVANIA	3,743,000	3,097,523	-645,477	6.5380	5.7220	-0.8159
RHODE ISLAND	86,938	86,938	+0	0.1518	0.1605	+0.0087
SOUTH CAROLINA	148,124	148,124	+0	0.2587	0.2736	+0.0149
SOUTH DAKOTA	6,024	6,024	+0	0.0105	0.0111	+0.0006
TENNESSEE	405,266	405,266	+0	0.7078	0.7486	+0.0408
TEXAS	3,507,936	3,507,936	+0	6.1274	6.4802	+0.3528
UTAH	164,151	164,151	+0	0.2867	0.3032	+0.0165
VERMONT	27,025	0	-27,025	0.0472	0.0000	-0.0471
VIRGINIA	1,550,490	1,550,490	+0	2.7083	2.8642	+0.1559
WASHINGTON	248,527	248,527	+0	0.4341	0.4590	+0.0249
WEST VIRGINIA	2,454,010	19,734	-2,434,276	4.2865	0.0364	-4.2500
WISCONSIN	1,911,808	1,911,808	+0	3.3394	3.5316	+0.1922
WYOMING	0	0	+0	0.0000	0.0000	+0.0000
AMERICAN SAMOA	0	0	+0	0.0000	0.0000	+0.0000
GUAM	319,284	319,284	+0	0.5577	0.5898	+0.0321
PUERTO RICO	0	0	+0	0.0000	0.0000	+0.0000
PAC. TR. TERR.	0	0	+0	0.0000	0.0000	+0.0000
VIRGIN ISLANDS	0	0	+0	0.0000	0.0000	+0.0000
U.S. TOTALS	57,249,514	54,132,698	-3,116,816	100.0000	100.0000	+0.0000

FEBRUARY 10, 1977
TABLE 36

1976 NEEDS SURVEY

EPA BACKLOG ESTIMATES
FOR CONSTRUCTION OF PUBLICLY-OWNED WASTEWATER TREATMENT FACILITIES
MILLIONS OF 1976 DOLLARS

		CATEGORIES							
	TOTAL	I	II	III A	III B	IV A	IV B	V	VI
ALABAMA	786	96	108	65	2	206	134	0	113
ALASKA	183	73	0	1	0	68	35	3	1
ARIZONA	206	69	2	1	0	103	16	0	12
ARKANSAS	383	54	113	21	0	107	35	46	4
CALIFORNIA	5,010	855	215	89	8	838	227	385	2,389
COLORADO	354	14	108	20	196	0	0	3	10
CONNECTICUT	2,070	89	38	31	10	467	153	387	899
DELAWARE	203	0	29	3	0	32	94	39	2
DIST. OF COLUM.	228	0	12	58	0	0	7	149	1
FLORIDA	8,129	105	356	95	6	1,139	739	0	5,685
GEORGIA	1,399	59	348	41	0	211	294	301	142
HAWAII	783	187	0	0	0	128	132	0	335
IDAHO	222	31	23	16	0	94	47	0	0
ILLINOIS	5,583	41	1,032	102	58	333	285	2,585	1,144
INDIANA	3,101	31	452	201	56	458	298	1,232	368
IOWA	829	205	276	56	0	92	98	90	9
KANSAS	464	171	0	32	0	77	68	107	6
KENTUCKY	1,026	26	248	64	0	226	319	132	9
LOUISIANA	556	198	36	109	2	97	76	0	36
MAINE	984	94	15	14	3	183	105	482	85
MARYLAND	3,086	6	770	21	1,128	60	262	47	788
MASSACHUSETTS	4,844	631	161	16	46	834	560	876	1,716
MICHIGAN	4,915	15	606	73	318	1,230	666	1,347	656
MINNESOTA	983	0	379	24	10	170	156	223	19
MISSISSIPPI	714	44	209	109	2	52	127	0	168
MISSOURI	2,033	412	4	19	0	159	131	1,292	14
MONTANA	77	32	8	6	1	17	9	0	1
NEBRASKA	279	72	18	4	0	14	19	146	3
NEVADA	115	9	31	2	0	26	27	14	3
NEW HAMPSHIRE	988	143	58	6	3	216	221	307	29
NEW JERSEY	9,527	606	342	125	27	397	330	604	7,093
NEW MEXICO	76	16	16	4	0	23	11	0	2
NEW YORK	14,488	2,028	757	148	2,525	3,248	1,728	2,663	1,389
NORTH CAROLINA	861	27	291	57	0	147	328	0	9
NORTH DAKOTA	[illegible]	17	0	0	1	5	1	12	0
OHIO	1[illegible],530	24	1,595	626	356	974	1,250	1,765	3,936
OKLAHOMA	282	5	114	32	3	66	47	0	12
OREGON	784	2	45	116	32	243	127	210	7
PENNSYLVANIA	5,781	208	741	33	0	951	415	820	2,611
RHODE ISLAND	702	46	73	8	0	230	74	264	4
SOUTH CAROLINA	809	101	148	36	0	168	284	0	68
SOUTH DAKOTA	78	14	48	4	0	3	4	1	1
TENNESSEE	1,237	42	300	52	0	307	223	183	126
TEXAS	2,768	1	311	178	60	460	260	48	1,446
UTAH	286	0	121	42	0	35	16	0	70
VERMONT	379	43	59	1	5	78	27	161	0
VIRGINIA	2,466	246	217	29	1	194	391	244	1,141
WASHINGTON	1,221	109	17	107	134	392	79	341	39
WEST VIRGINIA	2,161	248	75	7	0	626	773	426	2
WISCONSIN	3,384	109	290	72	142	421	333	277	1,737
WYOMING	30	24	0	1	0	0	3	0	0
AMERICAN SAMOA	28	17	0	0	2	7	1	0	0
GUAM	238	9	0	0	0	31	11	22	163
PUERTO RICO	780	273	15	6	11	240	233	0	0
PAC. TR. TERR.	125	87	0	0	0	35	1	0	0
VIRGIN ISLANDS	37	3	7	0	0	23	2	0	0
U.S. TOTALS	109,670	8,093	11,313	3,009	5,165	16,979	12,318	18,261	34,528

NOTE: SUM OF ENTRIES MAY NOT EQUAL TOTALS DUE TO ROUNDING

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TABLE 37

1976 NEEDS SURVEY

BACKLOG COSTS AND PERCENTAGE OF NATIONAL NEEDS FOR CONSTRUCTION OF PUBLICLY-OWNED WASTEWATER TREATMENT FACILITIES

THOUSANDS OF 1976 DOLLARS
CATEGORIES I THRU V

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1976 BACKLOG	1990 EPA ASSESSMENT	DIFFERENCE	1976 BACKLOG	1990 EPA ASSESSMENT	DIFFERENCE
ALABAMA	673,205	865,736	+192,531	0.8959	0.9027	+0.0068
ALASKA	182,434	327,358	+144,924	0.2427	0.3413	+0.0985
ARIZONA	193,193	458,568	+265,375	0.2571	0.4781	+0.2210
ARKANSAS	379,458	517,830	+138,372	0.5049	0.5399	+0.0349
CALIFORNIA	2,620,491	5,544,170	+2,923,679	3.4873	5.7810	+2.2936
COLORADO	343,955	697,360	+353,405	0.4577	0.7271	+0.2694
CONNECTICUT	1,178,639	1,273,296	+94,657	1.5685	1.3276	-0.2408
DELAWARE	200,999	269,923	+68,924	0.2674	0.2814	+0.0139
DIST. OF COLUM.	227,050	227,050	+0	0.3021	0.2367	-0.0654
FLORIDA	2,444,217	3,726,619	+1,282,402	3.2527	3.8858	+0.6330
GEORGIA	1,256,691	1,635,482	+378,791	1.6724	1.7053	+0.0329
HAWAII	448,438	752,666	+304,228	0.5967	0.7848	+0.1880
IDAHO	221,766	437,066	+215,300	0.2951	0.4557	+0.1606
ILLINOIS	4,439,384	5,365,808	+926,424	5.9079	5.5950	-0.3128
INDIANA	2,732,690	3,164,264	+431,574	3.6366	3.2994	-0.3372
IOWA	820,015	1,035,872	+215,857	1.0912	1.0801	-0.0111
KANSAS	458,247	679,048	+220,801	0.6098	0.7080	+0.0982
KENTUCKY	1,017,436	1,283,045	+265,609	1.3540	1.3378	-0.0161
LOUISIANA	520,210	707,105	+186,895	0.6922	0.7373	+0.0450
MAINE	899,201	962,282	+63,081	1.1966	1.0033	-0.1932
MARYLAND	2,298,337	2,912,881	+614,544	3.0586	3.0373	-0.0213
MASSACHUSETTS	3,128,353	3,400,433	+272,080	4.1632	3.5457	-0.6175
MICHIGAN	4,258,550	5,133,255	+874,705	5.6673	5.3525	-0.3147
MINNESOTA	964,727	1,610,440	+645,713	1.2838	1.6792	+0.3953
MISSISSIPPI	546,211	750,325	+204,114	0.7269	0.7823	+0.0554
MISSOURI	2,019,495	2,590,160	+570,665	2.6875	2.7008	+0.0132
MONTANA	75,787	126,902	+51,115	0.1008	0.1323	+0.0314
NEBRASKA	276,243	409,771	+133,528	0.3676	0.4272	+0.0596
NEVADA	111,780	265,232	+153,452	0.1487	0.2765	+0.1278
NEW HAMPSHIRE	958,083	1,041,471	+83,388	1.2750	1.0859	-0.1890
NEW JERSEY	2,434,651	3,252,921	+818,270	3.2400	3.3919	+0.1518
NEW MEXICO	73,750	148,310	+74,560	0.0981	0.1546	+0.0564
NEW YORK	13,099,337	14,514,325	+1,414,988	17.4326	15.1344	-2.2982
NORTH CAROLINA	852,475	1,213,386	+360,911	1.1344	1.2652	+0.1307
NORTH DAKOTA	38,537	73,300	+34,763	0.0512	0.0764	+0.0251
OHIO	6,594,232	7,192,173	+597,941	8.7756	7.4994	-1.2761
OKLAHOMA	270,467	516,837	+246,370	0.3599	0.5389	+0.1789
OREGON	777,080	1,382,726	+605,646	1.0341	1.4418	+0.4076
PENNSYLVANIA	3,170,018	3,806,422	+636,404	4.2186	3.9690	-0.2496
RHODE ISLAND	697,652	722,882	+25,230	0.9284	0.7537	-0.1746
SOUTH CAROLINA	741,289	957,225	+215,936	0.9865	0.9981	+0.0116
SOUTH DAKOTA	77,376	137,654	+60,278	0.1029	0.1435	+0.0405
TENNESSEE	1,110,840	1,279,448	+168,608	1.4783	1.3341	-0.1441
TEXAS	1,321,926	2,814,460	+1,492,534	1.7592	2.9347	+1.1754
UTAH	215,990	270,375	+54,385	0.2874	0.2819	-0.0055
VERMONT	379,012	388,850	+9,838	0.5043	0.4054	-0.0989
VIRGINIA	1,325,688	1,583,252	+257,564	1.7642	1.6508	-0.1133
WASHINGTON	1,182,643	1,999,294	+816,651	1.5738	2.0847	+0.5108
WEST VIRGINIA	2,158,850	2,184,400	+25,550	2.8730	2.2777	-0.5952
WISCONSIN	1,647,658	1,976,821	+329,163	2.1927	2.0612	-0.1314
WYOMING	30,500	67,338	+36,838	0.0405	0.0702	+0.0296
AMERICAN SAMOA	28,753	59,940	+31,187	0.0382	0.0625	+0.0242
GUAM	75,056	94,204	+19,148	0.0998	0.0982	-0.0016
PUERTO RICO	780,694	898,507	+117,813	1.0389	0.9368	-0.1020
PAC. TR. TERR.	125,112	150,217	+25,105	0.1664	0.1566	-0.0098
VIRGIN ISLANDS	37,533	45,805	+8,272	0.0499	0.0477	-0.0021
U.S. TOTALS	75,142,404	95,902,490	+20,760,086	100.0000	100.0000	+0.0000

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FEBRUARY 10, 1977
TABLE 38

1976 NEEDS SURVEY

BACKLOG COSTS AND PERCENTAGE OF NATIONAL NEEDS FOR CONSTRUCTION OF PUBLICLY-OWNED WASTEWATER TREATMENT FACILITIES

THOUSANDS OF 1976 DOLLARS
CATEGORIES I, II AND IV B

	COSTS			PERCENTAGE OF NATIONAL TOTALS		
	1976 BACKLOG	1990 EPA ASSESSMENT	DIFFERENCE	1976 BACKLOG	1990 EPA ASSESSMENT	DIFFERENCE
ALABAMA	398,292	590,823	+192,531	1.2554	1.1327	-0.1226
ALASKA	108,953	253,801	+144,848	0.3434	0.4866	+0.1432
ARIZONA	87,890	353,265	+265,375	0.2770	0.6773	+0.4003
ARKANSAS	203,461	341,833	+138,372	0.6413	0.6553	+0.0140
CALIFORNIA	1,297,875	4,220,309	+2,922,434	4.0908	8.0914	+4.0006
COLORADO	115,575	427,839	+312,264	0.3642	0.8202	+0.4560
CONNECTICUT	282,100	376,756	+94,656	0.8891	0.7223	-0.1667
DELAWARE	124,683	192,355	+67,672	0.3929	0.3687	-0.0241
DIST. OF COLUM.	19,753	19,753	+0	0.0622	0.0378	-0.0243
FLORIDA	1,202,234	2,484,636	+1,282,402	3.7894	4.7637	+0.9743
GEORGIA	702,276	1,081,067	+378,791	2.2135	2.0726	-0.1408
HAWAII	319,756	623,976	+304,220	1.0078	1.1963	+0.1885
IDAHO	102,314	317,190	+214,876	0.3224	0.6081	+0.2857
ILLINOIS	1,359,450	2,285,556	+926,106	4.2849	4.3820	+0.0971
INDIANA	782,668	1,213,627	+430,959	2.4669	2.3268	-0.1400
IOWA	580,133	795,990	+215,857	1.8285	1.5261	-0.3023
KANSAS	240,507	459,347	+218,840	0.7580	0.8806	+0.1226
KENTUCKY	593,696	859,305	+265,609	1.8713	1.6475	-0.2237
LOUISIANA	310,973	497,785	+186,812	0.9801	0.9543	-0.0257
MAINE	215,307	278,388	+63,081	0.6786	0.5337	-0.1448
MARYLAND	1,039,602	1,654,146	+614,544	3.2768	3.1714	-0.1053
MASSACHUSETTS	1,354,024	1,625,728	+271,704	4.2678	3.1169	-1.1508
MICHIGAN	1,288,622	1,903,842	+615,220	4.0617	3.6501	-0.4115
MINNESOTA	536,018	1,181,731	+645,713	1.6895	2.2656	+0.5761
MISSISSIPPI	381,398	585,512	+204,114	1.2021	1.1225	-0.0795
MISSOURI	548,776	1,119,255	+570,479	1.7297	2.1459	+0.4162
MONTANA	50,258	101,373	+51,115	0.1584	0.1943	+0.0359
NEBRASKA	110,771	244,299	+133,528	0.3491	0.4683	+0.1192
NEVADA	68,263	221,715	+153,452	0.2151	0.4250	+0.2099
NEW HAMPSHIRE	423,420	506,808	+83,388	1.3346	0.9716	-0.3629
NEW JERSEY	1,279,358	2,097,511	+818,153	4.0325	4.0214	-0.0110
NEW MEXICO	45,486	119,992	+74,506	0.1433	0.2300	+0.0867
NEW YORK	4,513,981	5,928,637	+1,414,656	14.2280	11.3667	-2.8612
NORTH CAROLINA	647,013	1,007,924	+360,911	2.0393	1.9324	-0.1068
NORTH DAKOTA	18,557	53,320	+34,763	0.0584	0.1022	+0.0438
OHIO	2,870,170	3,464,454	+594,284	9.0467	6.6422	-2.4044
OKLAHOMA	168,019	404,846	+236,827	0.5295	0.7761	+0.2466
OREGON	175,186	778,313	+603,127	0.5521	1.4922	+0.9401
PENNSYLVANIA	1,364,866	2,001,200	+636,334	4.3020	3.8368	-0.4651
RHODE ISLAND	193,760	218,990	+25,230	0.6107	0.4198	-0.1908
SOUTH CAROLINA	534,014	749,950	+215,936	1.6832	1.4378	-0.2453
SOUTH DAKOTA	68,385	128,663	+60,278	0.2155	0.2466	+0.0311
TENNESSEE	567,175	735,783	+168,608	1.7877	1.4106	-0.3770
TEXAS	573,636	2,064,261	+1,490,625	1.8080	3.9577	+2.1497
UTAH	138,769	193,154	+54,385	0.4373	0.3703	-0.0669
VERMONT	131,630	141,468	+9,838	0.4148	0.2712	-0.1435
VIRGINIA	855,117	1,112,681	+257,564	2.6953	2.1333	-0.5619
WASHINGTON	206,536	1,020,757	+814,221	0.6509	1.9570	+1.3061
WEST VIRGINIA	1,098,227	1,123,777	+25,550	3.4615	2.1545	-1.3069
WISCONSIN	733,423	1,061,783	+328,360	2.3117	2.0357	-0.2759
WYOMING	27,951	64,789	+36,838	0.0881	0.1242	+0.0361
AMERICAN SAMOA	19,151	50,338	+31,187	0.0603	0.0965	+0.0362
GUAM	20,978	40,126	+19,148	0.0661	0.0769	+0.0108
PUERTO RICO	522,740	640,553	+117,813	1.6476	1.2281	-0.4194
PAC. TR. TERR.	89,394	114,499	+25,105	0.2817	0.2195	-0.0621
VIRGIN ISLANDS	13,450	21,722	+8,272	0.0423	0.0416	-0.0006
U.S. TOTALS	31,726,020	52,157,501	+20,431,481	100.0000	100.0000	+0.0000

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FEBRUARY 18, 1977
TABLE 39

1976 NEEDS SURVEY

BACKLOG PER CAPITA COSTS
FOR CONSTRUCTION OF PUBLICLY-OWNED TREATMENT FACILITIES
* THOUSANDS OF 1976 DOLLARS
POPULATIONS IN THOUSANDS
CATEGORIES I II IVB

	1976 * BACKLOG	1975 POPULATION	BACKLOG PER CAPITA
ALABAMA	398,292	3,614	110
ALASKA	108,953	352	309
ARIZONA	87,890	2,224	39
ARKANSAS	203,461	2,116	96
CALIFORNIA	1,297,875	21,185	61
COLORADO	115,575	2,534	45
CONNECTICUT	282,100	3,095	91
DELAWARE	124,683	579	215
DIST. OF COLUM.	19,753	716	27
FLORIDA	1,202,234	8,357	143
GEORGIA	702,276	4,926	142
HAWAII	319,756	865	369
IDAHO	102,314	820	124
ILLINOIS	1,359,450	11,145	121
INDIANA	782,668	5,311	147
IOWA	580,133	2,870	202
KANSAS	240,507	2,267	106
KENTUCKY	593,696	3,396	174
LOUISIANA	310,973	3,791	82
MAINE	215,387	1,059	203
MARYLAND	1,039,602	4,098	253
MASSACHUSETTS	1,354,824	5,828	232
MICHIGAN	1,288,622	9,157	140
MINNESOTA	536,818	3,926	136
MISSISSIPPI	381,390	2,346	162
MISSOURI	548,776	4,763	115
MONTANA	50,258	748	67
NEBRASKA	110,771	1,546	71
NEVADA	68,263	592	115
NEW HAMPSHIRE	423,420	818	517
NEW JERSEY	1,279,350	7,316	174
NEW MEXICO	45,486	1,147	39
NEW YORK	4,513,981	18,120	249
NORTH CAROLINA	647,013	5,451	118
NORTH DAKOTA	18,557	635	29
OHIO	2,870,170	10,759	266
OKLAHOMA	168,019	2,712	61
OREGON	175,186	2,288	76
PENNSYLVANIA	1,364,866	11,827	115
RHODE ISLAND	193,760	927	209
SOUTH CAROLINA	534,814	2,818	189
SOUTH DAKOTA	68,385	683	100
TENNESSEE	567,175	4,188	135
TEXAS	573,636	12,237	46
UTAH	138,769	1,206	115
VERMONT	131,630	471	279
VIRGINIA	855,117	4,967	172
WASHINGTON	206,536	3,544	58
WEST VIRGINIA	1,098,227	1,803	609
WISCONSIN	733,423	4,607	159
WYOMING	27,951	374	74
AMERICAN SAMOA	19,151	30	638
GUAM	20,978	121	173
PUERTO RICO	522,740	3,049	171
PAC. TR. TERR.	89,394	119	751
VIRGIN ISLANDS	13,450	87	154
U.S. TOTALS	31,726,020	216,530	146

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APPENDIX III

SURVEY COST

The cost of this Survey was as follows:

Item	Cost
Category I-IV Contractor, included about 90,000 manhours of engineering related work.	$1,647,000
Category V, VI Contractor	114,000
U.S. Government Salaries & Overhead	161,000
Printing and Reproduction	16,000
Computer Processing Cost	95,000
Other	20,000
Total	$2,053,000

APPENDIX IV

SUPPLEMENTARY TABLES

The four tables which follow are supplementary to the text of the report. See the report text for reference and explanations.

APPENDIX III

SURVEY COST

The cost of this Survey was as follows:

Item	Cost
Category I-IV Contractor, included about 90,000 manhours of engineering related work.	$1,647,000
Category V, VI Contractor	114,000
U.S. Government Salaries & Overhead	161,000
Printing and Reproduction	16,000
Computer Processing Cost	95,000
Other	20,000
Total	$2,053,000

APPENDIX IV

SUPPLEMENTARY TABLES

The four tables which follow are supplementary to the text of the report. See the report text for reference and explanations.

FEBRUARY 10, 1977
TABLE A-1

1976 NEEDS SURVEY

NUMBER OF EPA COST ASSESSMENTS BY CATEGORY

STATE	TOTAL	CAT I	CAT II	CAT IIIA	CAT IIIB	CAT IVA	CAT IVB
ALABAMA	697	98	69	152	2	191	185
ALASKA	358	117	1	11	1	108	120
ARIZONA	419	137	9	6	0	125	142
ARKANSAS	388	38	72	41	0	113	124
CALIFORNIA	2,274	464	102	271	15	603	819
COLORADO	334	91	53	27	3	44	116
CONNECTICUT	341	31	13	45	2	123	127
DELAWARE	89	2	16	14	3	22	32
DIST. OF COLUM.	3	0	1	1	0	0	1
FLORIDA	683	18	122	151	1	187	204
GEORGIA	743	84	122	121	1	194	221
HAWAII	127	38	0	9	0	38	42
IDAHO	609	161	7	120	2	126	193
ILLINOIS	1,111	34	392	90	19	271	305
INDIANA	981	37	237	128	31	275	273
IOWA	866	248	52	174	0	189	203
KANSAS	539	130	4	121	1	131	152
KENTUCKY	407	26	77	73	0	114	117
LOUISIANA	524	117	35	94	3	104	171
MAINE	529	103	22	50	5	190	159
MARYLAND	856	32	254	75	22	211	262
MASSACHUSETTS	566	59	37	51	5	202	212
MICHIGAN	762	33	120	73	36	267	233
MINNESOTA	530	0	160	61	2	163	144
MISSISSIPPI	267	24	49	61	1	64	68
MISSOURI	737	202	2	105	0	222	206
MONTANA	130	40	6	15	1	34	34
NEBRASKA	342	102	4	81	0	52	103
NEVADA	165	42	12	6	1	40	64
NEW HAMPSHIRE	427	66	35	31	6	144	145
NEW JERSEY	623	27	88	157	3	211	137
NEW MEXICO	104	19	4	7	3	33	38
NEW YORK	2,987	436	286	483	31	976	775
NORTH CAROLINA	604	23	119	131	0	146	185
NORTH DAKOTA	125	64	1	1	1	21	37
OHIO	1,658	19	440	292	34	430	443
OKLAHOMA	563	9	152	91	5	124	182
OREGON	311	14	30	80	5	90	92
PENNSYLVANIA	2,290	192	337	175	0	835	751
RHODE ISLAND	85	10	6	9	1	31	28
SOUTH CAROLINA	1,051	79	196	222	0	264	290
SOUTH DAKOTA	168	72	18	13	2	26	37
TENNESSEE	1,071	87	191	202	0	297	294
TEXAS	1,987	8	455	297	47	540	640
UTAH	342	1	97	51	0	67	126
VERMONT	[illegible]	49	38	29	14	98	88
VIRGINIA	1,116	279	116	103	1	296	321
WASHINGTON	705	148	5	148	12	205	187
WEST VIRGINIA	1,492	403	77	40	1	485	486
WISCONSIN	1,461	259	199	216	53	398	336
WYOMING	55	27	0	4	0	4	20
AMERICAN SAMOA	17	6	0	0	1	5	5
GUAM	22	6	0	3	0	7	6
PUERTO RICO	118	25	5	22	2	33	31
PAC. TR. TERR.	106	37	0	0	0	36	33
VIRGIN ISLANDS	14	3	1	2	0	4	4
U.S. TOTALS	36,195	4,876	4,946	5,036	379	10,209	10,749

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FEBRUARY 10, 1977
TABLE A-2

1976 NEEDS SURVEY

NUMBER OF STATE COST ESTIMATES DIFFERING FROM EPA ASSESSMENTS

STATE	TOTAL	CAT I	CAT II	CAT IIIA	CAT IIIB	CAT IVA	CAT IVB	CAT V	CAT VI
ALABAMA	0	0	0	0	0	0	0	0	0
ALASKA	2	0	0	0	0	0	0	1	1
ARIZONA	0	0	0	0	0	0	0	0	0
ARKANSAS	8	0	2	2	0	2	2	0	0
CALIFORNIA	5	1	0	0	0	1	2	1	0
COLORADO	15	4	2	4	0	2	3	0	0
CONNECTICUT	5	2	0	0	0	1	2	0	0
DELAWARE	0	0	0	0	0	0	0	0	0
DIST. OF COLUM.	0	0	0	0	0	0	0	0	0
FLORIDA	0	0	0	0	0	0	0	0	0
GEORGIA	0	0	0	0	0	0	0	0	0
HAWAII	15	5	0	0	0	5	5	0	0
IDAHO	6	2	0	0	0	2	2	0	0
ILLINOIS	24	0	7	2	1	8	6	0	0
INDIANA	256	12	61	52	10	62	59	0	0
IOWA	4	0	1	1	0	1	1	0	0
KANSAS	207	47	8	53	2	43	54	0	0
KENTUCKY	0	0	0	0	0	0	0	0	0
LOUISIANA	0	0	0	0	0	0	0	0	0
MAINE	0	0	0	0	0	0	0	0	0
MARYLAND	0	0	0	0	0	0	0	0	0
MASSACHUSETTS	0	0	0	0	0	0	0	0	0
MICHIGAN	60	6	9	6	3	18	18	0	0
MINNESOTA	2	0	1	0	0	1	0	0	0
MISSISSIPPI	0	0	0	0	0	0	0	0	0
MISSOURI	0	0	0	0	0	0	0	0	0
MONTANA	4	0	1	1	0	1	1	0	0
NEBRASKA	1	1	0	0	0	0	0	0	0
NEVADA	0	0	0	0	0	0	0	0	0
NEW HAMPSHIRE	0	0	0	0	0	0	0	0	0
NEW JERSEY	210	10	38	85	0	37	40	0	0
NEW MEXICO	0	0	0	0	0	0	0	0	0
NEW YORK	1758	288	136	160	25	638	511	0	0
NORTH CAROLINA	0	0	0	0	0	0	0	0	0
NORTH DAKOTA	8	6	0	0	0	0	2	0	0
OHIO	16	0	3	4	4	2	3	0	0
OKLAHOMA	31	3	7	6	1	6	8	0	0
OREGON	4	1	0	1	0	1	1	0	0
PENNSYLVANIA	1	0	0	0	0	0	0	0	1
RHODE ISLAND	16	2	2	4	0	4	4	0	0
SOUTH CAROLINA	0	0	0	0	0	0	0	0	0
SOUTH DAKOTA	0	0	0	0	0	0	0	0	0
TENNESSEE	0	0	0	0	0	0	0	0	0
TEXAS	17	0	5	4	0	4	4	0	0
UTAH	0	0	0	0	0	0	0	0	0
VERMONT	111	12	15	30	9	23	21	0	1
VIRGINIA	37	1	0	10	7	8	11	0	0
WASHINGTON	23	3	2	7	6	2	3	0	0
WEST VIRGINIA	1	0	0	0	0	0	0	0	1
WISCONSIN	2	0	1	0	0	0	0	1	0
WYOMING	0	0	0	0	0	0	0	0	0
AMERICAN SAMOA	0	0	0	0	0	0	0	0	0
GUAM	0	0	0	0	0	0	0	0	0
PUERTO RICO	101	21	3	21	8	24	24	0	0
PAC. TR. TERR.	0	0	0	0	0	0	0	0	0
VIRGIN ISLANDS	3	1	0	0	0	1	1	0	0
U.S. TOTALS	2953	428	304	453	76	897	788	3	4

FEBRUARY 10, 1977
TABLE A-3

1976 NEEDS SURVEY

PERCENT OF STATE DOLLAR NEEDS BY BASIS OF COST ESTIMATE

STATE	STATE CERTIFICATION	ANALYSIS COMPLETED	EVALUATION SURVEY COMPLETED	ENGINEER / CONSULTANT FIRM EST.	COST OF COMPARABLE CONSTRUCTION	ENGINEER / CONSULTANT PRELIM. EST.	EPA COST GUIDANCE	COST EFFECTIVE ANALYSIS	ROUGH ESTIMATE	NONE GIVEN	TOTAL
ALABAMA	0.0	4.1	0.2	0.3	0.0	19.1	76.0	0.0	0.0	0.4	100.0
ALASKA	0.0	0.0	0.1	2.2	54.9	22.8	20.0	0.0	0.0	0.0	100.0
ARIZONA	0.0	0.0	0.1	0.2	0.0	50.5	49.3	0.0	0.0	0.0	100.0
ARKANSAS	0.0	0.5	0.0	2.4	0.0	17.0	79.9	0.0	0.0	0.2	100.0
CALIFORNIA	0.0	0.2	0.0	1.4	0.1	62.1	32.6	3.3	0.1	0.1	100.0
COLORADO	0.0	0.0	0.0	0.2	0.3	54.9	44.5	0.0	0.0	0.0	100.0
CONNECTICUT	0.0	0.3	0.0	1.2	51.7	20.9	25.9	0.0	0.0	0.0	100.0
DELAWARE	0.0	0.3	0.5	0.7	0.0	78.9	19.2	0.3	0.0	0.0	100.0
DIST. OF COLUM.	0.0	0.0	0.0	25.4	0.0	74.6	0.0	0.0	0.0	0.0	100.0
FLORIDA	0.0	1.5	0.0	0.0	8.4	8.7	78.3	0.0	1.1	2.0	100.0
GEORGIA	0.0	2.5	0.3	6.8	0.4	31.0	58.9	0.0	0.0	0.2	100.0
HAWAII	0.0	0.0	0.0	0.6	3.4	55.0	41.0	0.0	0.0	0.0	100.0
IDAHO	0.0	0.7	0.3	0.3	0.0	6.1	92.5	0.0	0.0	0.2	100.0
ILLINOIS	0.2	2.3	0.7	3.8	1.7	65.4	12.4	2.5	11.1	0.0	100.0
INDIANA	0.0	1.9	2.7	3.3	1.8	48.2	26.6	0.0	15.5	0.0	100.0
IOWA	0.0	3.2	0.7	9.6	5.1	33.5	47.6	0.0	0.0	0.3	100.0
KANSAS	0.0	0.4	0.0	1.3	0.5	42.6	53.7	0.0	0.0	1.5	100.0
KENTUCKY	0.0	1.1	0.0	0.2	0.0	32.0	66.4	0.0	0.0	0.4	100.0
LOUISIANA	0.0	9.1	0.1	0.3	0.6	12.9	61.9	13.7	1.4	0.2	100.0
MAINE	0.0	0.6	0.5	2.4	16.7	71.6	8.1	0.0	0.2	0.0	100.0
MARYLAND	0.0	0.7	0.0	2.8	0.0	82.4	14.0	0.0	0.0	0.0	100.0
MASSACHUSETTS	0.0	0.2	0.3	2.5	15.5	76.7	4.5	0.0	0.2	0.0	100.0
MICHIGAN	0.0	0.1	0.8	9.1	2.9	67.8	13.3	0.0	5.9	0.1	100.0
MINNESOTA	0.0	0.7	0.5	12.3	8.2	67.8	5.3	0.0	5.2	0.0	100.0
MISSISSIPPI	0.0	18.4	0.0	0.0	0.0	23.8	57.7	0.0	0.0	0.1	100.0
MISSOURI	0.0	1.0	0.0	25.7	1.0	49.0	22.8	0.0	0.2	0.1	100.0
MONTANA	0.0	0.1	0.0	1.9	0.0	57.8	39.8	0.0	0.0	0.4	100.0
NEBRASKA	0.0	0.3	0.0	29.4	0.1	45.1	24.4	0.0	0.1	0.7	100.0
NEVADA	0.0	0.3	0.0	0.6	0.0	77.6	21.5	0.0	0.0	0.0	100.0
NEW HAMPSHIRE	0.1	0.2	0.3	0.1	28.3	56.4	14.2	0.0	0.3	0.0	100.0
NEW JERSEY	0.0	2.7	0.1	6.4	0.0	56.9	33.8	0.0	0.0	0.1	100.0
NEW MEXICO	0.0	2.1	0.0	0.0	0.0	48.9	48.9	0.0	0.0	0.1	100.0
NEW YORK	0.0	1.0	0.2	2.9	4.2	69.6	22.0	0.0	0.0	0.1	100.0
NORTH CAROLINA	0.0	3.2	0.0	0.6	0.0	41.7	53.4	0.0	0.0	1.1	100.0
NORTH DAKOTA	0.0	0.0	0.0	0.0	0.0	34.9	65.1	0.0	0.0	0.0	100.0
OHIO	0.6	3.8	0.3	14.4	7.7	48.5	14.0	0.4	10.3	0.0	100.0
OKLAHOMA	0.0	4.7	0.0	2.7	0.0	50.4	41.3	0.6	0.0	0.2	100.0
OREGON	0.0	0.2	2.8	7.1	7.5	1.7	80.0	0.2	0.0	0.6	100.0
PENNSYLVANIA	0.0	0.4	0.3	7.2	0.0	29.4	61.9	0.4	0.4	0.1	100.0
RHODE ISLAND	0.0	0.7	0.0	2.6	48.9	36.9	10.8	0.0	0.0	0.0	100.0
SOUTH CAROLINA	0.5	2.8	0.0	0.0	0.0	26.9	69.3	0.0	0.2	0.3	100.0
SOUTH DAKOTA	0.0	2.4	0.0	0.0	0.0	73.4	20.1	0.7	0.0	3.4	100.0
TENNESSEE	0.0	3.3	0.0	2.5	0.0	23.2	70.6	0.0	0.0	0.4	100.0
TEXAS	0.0	3.2	0.8	5.9	38.5	19.1	32.2	0.1	0.0	0.1	100.0
UTAH	0.0	0.1	0.0	1.2	0.0	23.2	75.1	0.4	0.0	0.0	100.0
VERMONT	0.0	1.0	0.6	3.9	26.0	37.7	30.5	0.0	0.0	0.2	100.0
VIRGINIA	0.0	1.7	0.0	11.4	0.2	60.2	26.4	0.0	0.0	0.1	100.0
WASHINGTON	0.0	1.5	1.2	10.8	3.3	54.7	28.1	0.0	0.0	0.3	100.0
WEST VIRGINIA	0.0	0.1	0.0	0.3	0.0	9.0	90.4	0.0	0.0	0.1	100.0
WISCONSIN	0.0	1.6	1.8	7.1	1.0	39.0	25.4	2.0	21.3	0.0	100.0
WYOMING	0.0	0.0	0.0	0.0	0.0	24.5	74.7	0.0	0.0	0.8	100.0
AMERICAN SAMOA	0.0	0.0	0.0	0.0	0.0	75.4	24.6	0.0	0.0	0.0	100.0
GUAM	0.0	0.0	0.0	0.0	0.0	47.1	52.9	0.0	0.0	0.0	100.0
PUERTO RICO	0.0	0.1	0.0	0.3	0.0	71.3	28.2	0.0	0.0	0.0	100.0
PAC. TR. TERR.	0.0	0.0	0.0	0.5	0.5	0.0	99.0	0.0	0.0	0.0	100.0
VIRGIN ISLANDS	0.0	0.1	0.0	0.0	0.0	42.8	57.0	0.0	0.0	0.0	100.0

FEBRUARY 10, 1977
TABLE A-6

1976 NEEDS SURVEY

PERCENT OF NATIONAL DOLLAR NEEDS BY BASIS OF COST ESTIMATE

BASIS OF ESTIMATE	CAT I	CAT II	CAT IIIA	CAT IIIB	CAT IVA	CAT IVB	TOTAL
STATE CERTIFICATION	0.0	0.0	0.0	0.0	0.2	0.0	0.1
ANALYSIS COMPLETED	0.1	0.1	39.1	1.6	0.0	0.0	1.6
EVALUATION SURVEY COMPLETED	0.0	0.0	6.9	1.5	0.0	0.0	0.4
ENGINEER/CONSULTANT FIRM ESTIMATE	5.0	7.0	0.4	0.1	3.1	7.4	5.1
COST OF PREVIOUS COMPARABLE CONSTRUCTION	0.9	1.5	0.1	0.0	16.5	8.3	6.1
ENGINEER/CONSULTANT PRELIMINARY ESTIMATE	61.7	47.4	33.6	96.7	31.1	53.4	51.0
EPA - SUPPLIED COST ESTIMATING PROCEDURES	30.8	41.2	17.4	0.1	44.6	27.0	32.8
COST EFFECTIVE ANALYSIS	0.7	1.3	0.0	0.0	0.1	0.4	0.6
ROUGH ESTIMATE	0.2	1.5	0.4	0.0	4.4	3.3	2.2
(NONE GIVEN)	0.6	0.0	2.1	0.0	0.0	0.1	0.2
U.S. TOTALS	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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